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PCFormat

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PCFormat

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in your mag

#189 July 2006

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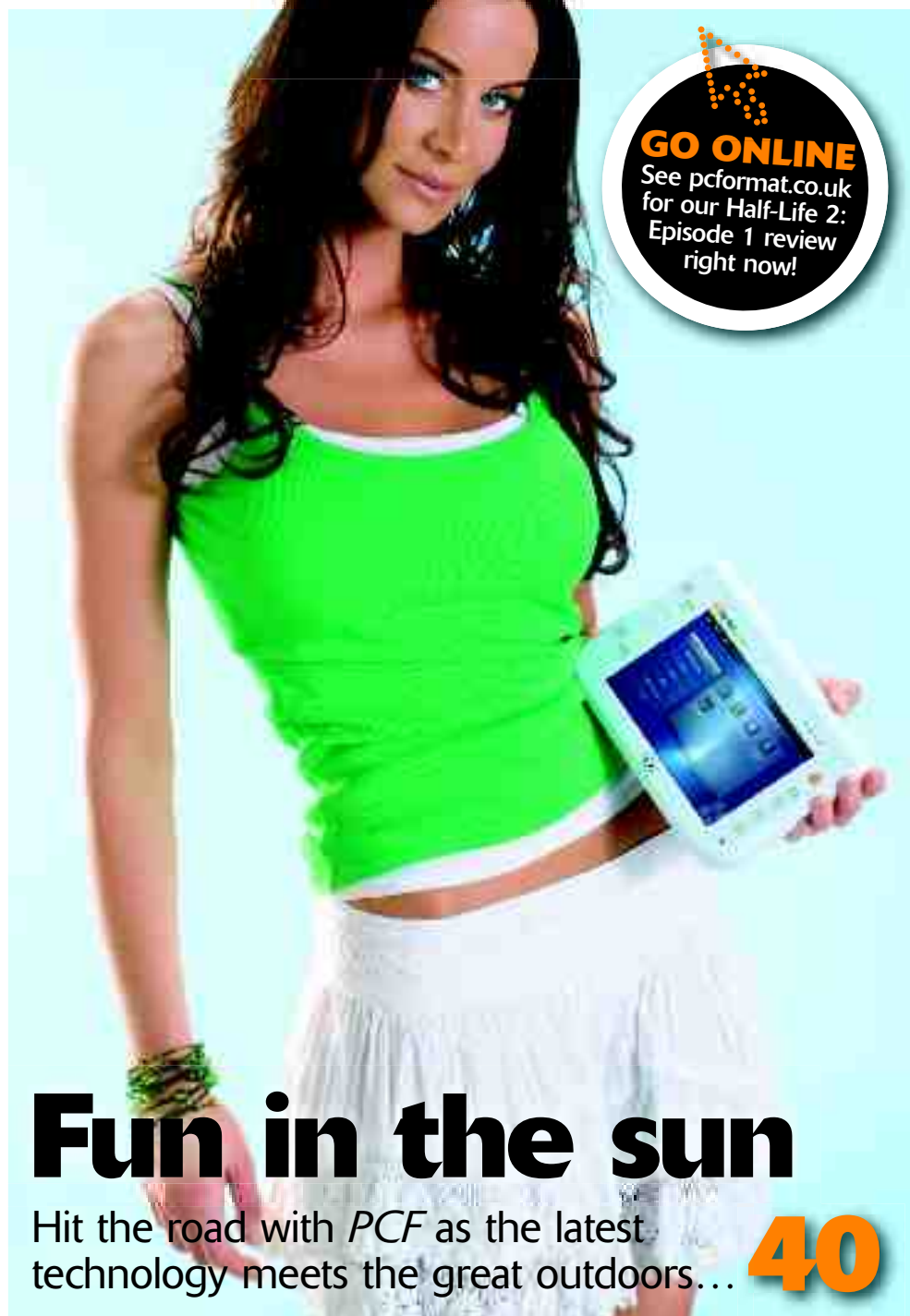
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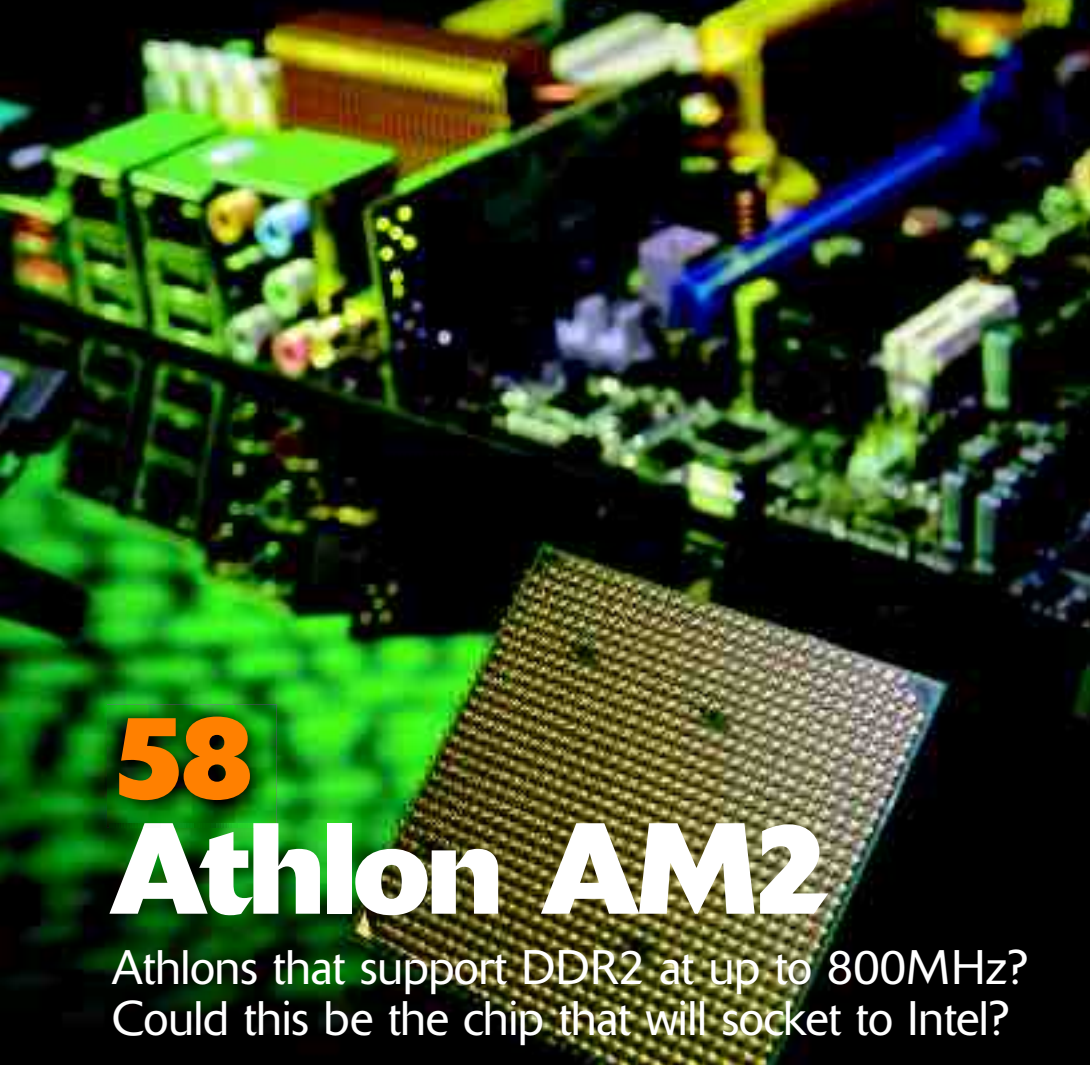
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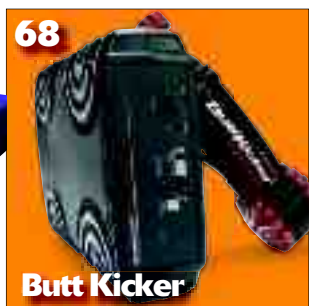
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PCFormat

Welcome

We've received an unusually high number of reader letters complaining about their ISPs recently. As more and more people get broadband and discover the joys of downloading music and video (legally and illegally), ISPs seem to be finding that their overall bandwidth allowance is straining to accommodate.

The answer? Implementing the dreaded Fair Use Policy – or FUP to its friends.

Not that FUPs have many friends; the first time many

people who have signed up to 'unlimited' packages find out about them (including myself) is when they receive a letter from their provider stating that they've exceeded their allowance and will now find their service is capped. So much for 'unlimited' access.

What makes it worse is that there's been a massive difference in the way ISPs introduce these restrictions. Some (like Plus.net) try to respond to people's (totally justified) complaints with

openness and honesty. Some (no names mentioned) don't.

We'll visit this topic again in the future, but in the meantime, if you're thinking of changing ISP, check the small print first.

Enjoy the issue

Adam Oxford, Editor



Alec Meer, Deputy Editor

He's only been legally driving for a month, but that didn't prevent Alec from stamping and shouting because we wouldn't let him pilot the psychedelic school bus that forms the backbone of our Summer of Silicon feature on page 40. So, he stropped off back to the office and watched a load of oddball online television instead (see p46). Well, frankly anything was better than being forced to play *SiN Episode 1: Emergence* again.

Achievement of the month Losing his GPS in a crowd of emo kids.



Al Bickham, Technical Editor

Itinerant chip-monkey Al travelled to Estonia this month, and was amazed by the tech-savviness of this blossoming ex-USSR nation. Not only is it the first country in the world to adopt email voting, but civil matters are discussed openly over IM services, so citizens can see the decisions that are being made in their name as the process happens. We should be taking a leaf out of their book...

Achievement of the month: Climbing beneath a waterfall.



James Carey, Games Editor

Escaped from LA with only minor lacerations detected. This was no small feat considering Games Carey risked the notorious LA bus system, complete with an "I gots ta get to ma parole officer, man" crazy

onboard. Is still suffering post-E3 euphoria.

Achievement of the month Finding the In 'N' Out Burger made famous in *The Big Lebowski*, and standing on the one and only Colt Seavers' star on Hollywood Boulevard. *The Fall Guy* rocked, trust us.



Jeremy Laird, Technology Writer

Brazil's footballers may exhibit more dash, flair and exuberance than the sofa-based wheezers cheering Theo, Michael and David on can imagine, but have any of them written a feature about graphics cards? We thought not. That's why our run-down of how to get the most from your 3D setup was

audaciously chipped into page 106 from 25 yards by PCF's very own overpaid, swaggering playmaker, Lairdinho. So, don't get sold a dummy – stick with PCFormat, and we'll turn your PC into a world-beater.

Achievement of the month Shoehorning seven references to the World Cup into 85 words. Get in!



Frontend

THE BEST OF THE MONTH IN COMPUTING

Eye Candy Silent but deadly

The Panrix Stealth 4800X2 is perhaps inappropriately-named – this isn't a PC you'll want to hide, sporting some truly game-thrashing components in a smart Coolermaster case with a gorgeous 20.1" NEC flat panel attached. It's a ninja of a machine, and yours for £1,996.33 www.panrix.co.uk

Under the hood

Athlon 64 3800+ X2
2 GB DDR PC3200
2x 150GB Western
Digital 10,000RPM HDD
512MB ASUS 7900GTX
Sound Blaster X-Fi
Fatal1ty FPS Edition
Samsung DVDRW
Creative 7.1 Speakers

Magic mushrooms

Find out why the groundbreaking *Spore*, the next game from *Sims* creator Will Wright, was *PCFormat*'s game of the show at this year's E3, over on p24. You'll also find a round up of the best of the rest – 2007 is looking like being a truly vintage year for PC gaming.



Audio overdrive

One of the more... unique toys we've had plugged into our soundcards appears on p68. Is the ButtKicker as horrifying as it sounds? Read on if you dare...

Hit the road

Giant, monolithic desktop PCs not quite to your taste? Well, you're in luck. Over on page 138, this month's supertest is all about high spec gaming notebooks – sleek, stylish, but also well able to cope with the most demanding gaming titles. Rush over there now to find out which is the best option for fending of boredom on the cripplingly slow train to Bognor this summer.

Free broadband forever!

The prospect of "free broadband" almost sounds too good to be true. Well, unfortunately, it is...

You're walking past the pub when a sign catches your eye. "Free beer forever!" it says. You dash in and order a pint, but before you can take a sip of the foamy, beery goodness the barman demands £360. "I thought the beer was free?"

you ask. "It is free," he replies. "But only if you buy 18 tons of meat pies."

Carphone Warehouse is essentially doing the same thing with broadband. The firm's Talk Talk service promises "free broadband forever", but when you read the small print you'll discover that its definition of "free" is "£30, and then 20 guild each month for 18 months".

As the Talk Talk site (www.talktalk.co.uk) explains, you'll

need to switch your phone line from BT and pay £11 per month line rental (the same as you currently pay BT), and you'll also need to sign up for the firm's telephone calling plan, which is another £10 per month. You'll then get an 8Mb service with a 40GB monthly data transfer and a free modem, but if you want to switch ISPs before the 18-month contract is up you'll face a predictably hefty admin fee.

Ian Fogg, Senior Analyst with Jupiter Research (www.jupiterresearch.com), points out that the Talk Talk deal is "just an escalation of the price war that's been going on for more than a year." However, it's still significant. "What's different is that the service is all about

"ISPs have been quick to offer rival services"

Optimised prime

That new multi-core CPU not playing as ultramega smooth as you'd expect? Check out our guide to getting the best from both Intel and AMD's offerings on p120. If graphics are the problem, see p106 where we detail how to configure your GPU for the system eating *Oblivion*.

top stories

p13

THE GIG IS UP
Online festivals have arrived

p16

\$100 LAPTOPS
Surely this isn't just a wind up?

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LINUX VIRUS
Has Torvalds gone rogue?



Alec Meer
HATES LITTLE CARDS

This would never happen on the high street

PCFormat employees don't really sleep on a mountain of free hardware. In fact, it's more of a hillock, and as printed circuit boards aren't good for the spine, we don't lie there long.

Actually, we spend our hard-earned on PC components as much as you do. Which means we suffer the same annoyances. Case in point, I was after some parts for my home PC and decided to order them from eBay, it being slightly cheaper than my usual go-to-site, Dabs. I'm now six weeks on from that original order, and have great rage. eBay won't deliver a first order anywhere but your billing address, ie. home – which I'm never at during the week. By a twisted miracle, I was off sick at the time of the second re-delivery, but one of the parts turned out to be duff. Three attempted deliveries of the replacement later, each time the courier was told yes, they could leave it with my neighbour, but left that dreaded 'delivery failed' card on my doormat, I got a refund. I then found the same part for £3 more from PCNextDay, who cheerfully delivered to my work address. There's a moral here, but I daren't quite speak it.

bundling broadband with telephony," he says. "The broadband itself isn't particularly unusual or exciting... but if you want free calls to landlines then the telephony part is pretty good value."

As Fogg points out, you're effectively ordering a telephone service that just happens to have broadband as a bonus. When you register, the firm "says that you'll get the telephony within two weeks, but the broadband date is much less definite," he explains. "The implication is that you'll get the telephony service quickly, but you won't get broadband for some time afterwards."

Other ISPs have been quick to launch rival services and slag off Carphone Warehouse in the process. PlusNet (www.plus.net) has unveiled its new



That it has 'phone' in its name remains a bit of a giveaway...

transfer, telephone line rental and inclusive calls for £21 per month, and there's a minimum contract period of one month. Meanwhile

There are four price plans available, ranging from £20 to £75 per month.

Of course, there's more to broadband than price. As Sebastien Lahtinen from ADSLGuide.org.uk points out, "you should never change provider just because you see a lower price... it's very important to consider whether the usage allowances meet your needs, not forgetting that some providers will use traffic management tools that limit bandwidth for particular types of applications." For example, Carphone Warehouse is currently attracting

complaints from gamers, who found that the firm's traffic management system renders games such as the hugely popular *World of Warcraft* almost unplayable during peak periods.

Despite these issues, Lahtinen believes that Carphone Warehouse's move is ultimately a positive one. "The offer is certainly clever marketing, but it [has] brought more attention to the broadband market and encouraged users to upgrade to higher speeds," he says. In the long term, "this may result in a very competitive market" – in other words, cheaper, faster broadband for everyone.

The current crop of broadband bundles offer reasonable value for money, but if we were pressed to make a decision for ourselves, we think the best deals are still to come. As Ian Fogg says, "when I speak to ISPs they tell me that they have to change their offers every few weeks... that means anyone who locks themselves into an 18-month contract is taking a bit of a risk, because a better deal is likely to arrive during that period." **PCF**

"Current broadband bundles offer value, but the best is yet to come"

"no gimmicks" service, and points out that while Carphone Warehouse's service is available to around 70% of the population via Local Loop Unbundling, PlusNet covers 99% of the country. From July, it will offer an 8Mb connection, 50Gb of data

Cambridge-based Only Communications (www.onlycommunications.com) has unveiled its Only Freedom service, which gives you a 2Mb connection with unlimited downloads when you sign up for a 12-month mobile phone contract with T-Mobile.



"Anyone who locks themselves into an 18-month contract is taking a bit of a risk... a better deal is likely to arrive"

Ian Fogg, Jupiter Research



"You should never change provider just because you see a lower price... it's very important to consider whether the usage allowances meet your needs"

Sebastien Lahtinen, ADSLguide

THEY SAY "We are aware that ...certain games are not running as they should." TalkTalk decides to close port 3724, blocking WoW players.



TIME STARVED

Quick ways to entertain yourself

1 ACHINGLY HIP

Ever had the urge to perform hip surgery but been lacking in willing victims, sorry, patients? This site allows you to whip a scalpel across cartoon flesh instead. www.edheads.org/activities/hip

2 MAC ATTACK

With the glorious synergy between Macs and Windows, we almost forgot that Apple bashing is still a lot of fun. Be warned, this chap turns the air as blue as, well, a blueberry iMac. tinyurl.com/zbpqqa

3 CROSSED PURPOSES

We assumed that Lego was an instrument for the forces of good, but this lethal looking crossbow puts paid to that idealistic nonsense. If you do build it, avoid shooting living things. tinyurl.com/zveoj

4 FORCE FIELD

Protecting the biscuit tin has taken a new and painful turn with the invention of force fields. Well, actually it's focussed electricity but try telling that to burglars. tinyurl.com/rvucz

5 RAZOR DRINK

The search for the nastiest cocktail has begun, and when the list includes one dubbed Fire in the Hole, expect puckered faces and strong language. tinyurl.com/mral6



Second Live

The only thing missing is overpriced booze...

Radio One takes the festival to *Second Life* in a mixed reality gig, while *Entropia* shows players the money...

Over the weekend of 13th May 2006, BBC Radio One staged a live music concert in Dundee. Not something we'd usually report on in PCF, granted, but we were there — sort of. You see, we were able to share in the party spirit simply by logging onto semi-free MMO *Second Life* (www.secondlife.com) and floating along to the station's virtual archipelago.

On arrival at the in-game 'venue', revellers are greeted with a giant marquee, a 3D screen on to which concert footage is streamed

and even virtual porta-potties that are, in true festival style, overflowing with muck. The upshot is that when PCF settled inside the tent, we were treated to a fair approximation of the live experience from the comfort of our own desk (complete with a full complement of glowstick-waving loons). "The event was a massive success. Much more so than we'd anticipated actually," explained Dan Heaf, interactive editor at Radio One. "We had a set level of users that could access the area simultaneously and at several points

in the weekend that quota was maxed out. We had around 7,000 unique visitors just over the course of the two days." The station also plans to use the virtual venue, which it has rented for the next year, as a showcase for unsigned talent.

Meanwhile, the spacefaring MMO *Entropia Universe* has a very different approach to mixed reality. The game, in which one player bought a \$100,000 space station, has announced a real life cash card, which will allow enterprising earners instant access to their game funds.

World of Warcraft: the movie

The production house behind *Superman Returns* is to bring the world's biggest video game to cinemas. Now you're Tolkien...



There aren't many movies that can be fairly sure of several million guaranteed viewers, but if just a fraction of WoW's player

base can stop grinding for a couple of hours, it's in for some serious profits. Of course, there's also the fact that WoW is just ever so slightly Tolkien-esque. "What we want to do is to make a great movie that happens to be set in a video game universe," said Blizzard COO Paul Sams, suggesting the cartoony look will be ditched for standard 'realistic' CGI. It's too soon to judge... isn't it?



FACT!

According to the Brookings Institution, and a chap at Georgetown University, the games industry employs 144,000 Americans and generates \$18 billion.



Playstation 3, Xbox 360 and Wii – or, if you like, about £850.



Stiff competition

Post-E3, all the new consoles' cards are on the table. So what sort of threat – or boon – to PC gaming are they?

God bless E3. Once all the plastic girls, awful wrestling games and whooping Texan gun nuts are pushed aside, there's always something worthwhile to come out of it: a hysterical catfight between the games consoles. Sony's PS3 and Nintendo's Wiivolution are both finally set to roll out this Winter, and Microsoft's Xbox 360's already on sale, but suffering from a serious AAA games deficit. It made for an amusing shouting match this time around.

BOX CLEVER

Hilarity initially ensued, following a shocked pause, when the PlayStation 3 controller was revealed as reverting to the traditional Dual Shock look (as opposed to the ridiculous banana-shaped thing originally proffered) with – wait for it – motion sensitivity. "Imitation is the sincerest form of flattery", said Reggie Fils-Aime, Nintendo's VP of Sales and Marketing. The Wii went on to steal the show, with a compelling line of apparently hugely innovative motion-controlled games, from tennis to sword fighting and, of course, Mario. It drew huge queues right until the end of the show, while the PS3 stand all but gathered dust by comparison. The Wii isn't trading on graphics, and leans instead on innovation and artistry, while the PlayStation 3 games playable at the show were visually equivalent to Xbox 360 games, despite the mooted (and, it increasingly seems, exaggerated)

power of its Cell processor. This means that, come the next refresh of 3D cards, the PC will restored to its rightful place as undisputed graphics king within months.

Microsoft didn't have much to offer by comparison, its biggest coos coming from the completely inevitable (*Halo 3*) and the vaguely unexpected (getting *Grand Theft Auto 4* at the same time as PS3 – next October) and the vital-for-survival (an external HD-DVD drive). Its biggest news, though, was talk of inter-PC/360 compatibility, which by the sound of it boils down to plans for an Xbox Live!-style online multiplayer service for PC, which means more high-budget hand-me-down games. A slick, easy to use way to play with or against like-minded gamers: great. Microsoft controlling how this is done, together with the associated text and audio chat,

downloadable updates and stealth-applied patches: bad. Think about just how sick it is that Microsoft charges a subscription for Xbox Live! – asking money to play a game you've already bought online. We really don't want this to happen on PC. More positive is the announcement that Live!

"Microsoft plans an Xbox Live-style service for PC"

Anywhere, as it's to be called, will also work on portable devices, enabling you to receive alerts as to when a co-player comes online and chat to them, download updates or play associated mini-games and so forth. "Our vision is to deliver consistent, compelling experiences that make it easy for consumers to jump in and play from any device at any time," said one William Gates Esq. An extra spot of bad news though, is that Live! Anywhere requires Vista. And if the final Vista is anything like as fractured as the betas we've used... erk.

w00t

See U3 later

Not everyone is a fan of the U3 software that appears on flash drives these days, so we've dug up an app to remove it, at tinyurl.com/jxttd.

Handheld Half-Life 2

We managed to get Gordon and chums running on the new Samsung Q1. See the evidence on our blog (tinyurl.com/h8ubo), and our Q1 review on p67.

Sporesome

We can barely contain our excitement over Will Wright's *Spore*. Office discussions over how many knees and teeth our first creations will sport are already rife.

Massively movie player game

We're apprehensive about the WoW movie and the reason is thus: if it's so difficult to translate games that actually had a plot to the big screen, we hold out little hope for a freeform MMO.

Hot Coffee redux

Oblivion has been reclassified to a Mature rating, thanks to a mod that allows female characters to wander around topless. Sigh.

Gmail downgrade

Google has been forced to remove the option to view PDF files in Gmail after it was revealed that the conversion to HTML completely bypassed any DRM features of the document. Whoops.

m00t

HEARD THIS? "We really feel that high definition will be the standard definition of the future." The BBC's director of television, Jana Bennett predicts the onward march of technology. In other news, bears are found to defecate in areas where trees proliferate.

The \$100 laptop is here

It may not play *Battlefield 2*, but it could just change the world.

Image Pete Barr-Watson, Creative Commons



The project's been planned for over a year, but finally the world's cheapest laptop has surfaced. But before you buy up 10 of the \$100 (around £60) machines, one for every room in the house, bear in mind they're intended to go to schools and children that can't afford computers, as part of government initiatives

organised by the One Laptop Per Child project.

Though it's not yet available anywhere, the first working prototype of the has been demonstrated – and it's an ultra-portable, running a modified Fedora Linux operating system (only 250MB in size), with features including wireless networking, a rotating screen and wind-up battery

recharge. Instead of a hard drive, everything runs off flash memory.

So far, the project says it won't be available to the public, but interested parties have pledged to buy one for \$300, the \$200 excess going towards laptops for needy children. If you're interested you can sign up at www.pledgebank.com/100laptop.

DUMB PROBLEM OF THE MONTH

Q My PC eats games for breakfast and sessions can last for hours without the slightest hiccup. When I try watching DVDs or online video, however, the machine lasts for about 15 minutes then the screen switches off never to return until reboot. The fans and drives still spin, but i can't get a response from the monitor.

A Sounds very much like a graphics driver conflict to us. If you're the sort of person that's very much into your games then it's possible you've downloaded some optimised drivers for your graphics card, just to squeeze out a few extra frames a second.

Unfortunately, while it may work out fine in games, some systems just don't agree with unofficial drivers. All you need to do is check your GPU manufacturer's website and download the latest drivers. This should, hopefully resolve these problems.

Progress, after a fashion

Vista features and system requirements confirmed at WinHEC conference

Microsoft has finally started nailing down the final features of Windows Vista, and has celebrated by releasing the long-awaited Beta 2 – along with Office 2007 and its new server software.

The release was announced by Bill Gates at the WinHEC hardware conference in Seattle, where several nearly new features were unveiled.

Most you've already heard about: the Aero interface, instant search, and the way it can use a USB stick as a crafty RAM boost – the latter now being called

"A camera you can browse even while it's taking photos"

ReadyBoost. New arrivals include peer-to-peer tool Meeting Space, which enables filesharing to nearby PCs via its own ad hoc network, and Windows Rally, a set of technologies that make wireless devices as

simple as plugging in a USB stick. Product manager Lorin Mughan showed how Vista could set up and secure a

WiFi access point automatically, and a prototype camera you can wirelessly browse even while it's taking photos. There was also a new focus on desktop Gadget mini-programs: Microsoft is encouraging

developers to build them into hardware so you can get email notifications and RSS updates in things like digital photo frames.

Ahead of the conference, Microsoft also revealed Vista's surprisingly frugal requirements: it'll only need an 800MHz CPU, 512MB of RAM and a DirectX9 graphics card, but the top-banana pimped-out version wants 1GHz, 1GB RAM, an Aero-ready 128MB graphics card and 40GB of hard disc space. You can see how your PC shapes up at www.microsoft.com/windowsvista/getready/upgradeadvisor. We'll have more details in the next issue, but you'll soon be able to get your mitts on it yourself – there's a Community Technology Preview arriving shortly.



The beta of Office 12 running on the beta of Windows Vista.

Overclocking for all

The ever more hegemonious world of motherboards means any attempt at innovation gets some attention from PCFormat.

All the usual suspects have rolled out all the usual Socket AM2 boards (p58), but NVIDIA's unveiling of its

NFORCE 590 chipset piqued our interest. There's room to tune DDR2 memory beyond JEDEC specs, which has led NVIDIA and Corsair to launch Enhanced Performance Profiles – a new open standard for tweaking RAM. EPP adds extra details to the SPD chip

on memory sticks, allowing changes via BIOS settings or the nTune app.

For those who don't want to get their hands dirty, EPP modules plugged into compatible boards automatically configure themselves for optimised running. Benchmarks next issue...

WHO IS... Will Wright Co-founder, Maxis



Wasn't he one of the brothers that made the first controlled flight?

Yes, then 86 years later he went on to design SimCity. Actually he's not the same Wright as that experimental aviator, but the spirit of the pioneer is most definitely alive within him. He later went on to create the frankly bonkers, but joyous Sim Ant, Sim Earth and most recently was the brains behind the virtual dolls' house, The Sims. He's won awards from all sectors of the industry, including the usually career-killing Lifetime Achievement award.

What's he done for us lately?

Well, he's just created an absolute storm at E3 with what we reckon is the stand out game of the entire show. Keep your Wii bottled up, forget the PS3, the PC's got the mammoth Spore to keep us all happy. He used the game last year to show how, with some clever coding, you can reduce the amount of content that a developer has to create. Check out Games Latest for a look at how it's evolving. Sorry.

Torvalds turns

Linus Torvalds patches virus to infect Linux systems

Back in April, Computerworld broke the story that Kaspersky Labs were reporting a new virus labelled as a proof-of-concept that malware creators were making cross-platform viruses. The catchily titled Virus.Linux.Bi.a/Virus.Win32.Bi.a isn't particularly dangerous but was seen as proof that, with the rise of

"Hurrah for Linux and the safety of all who sail in her"

the Linux OS on corporate desktops, multi-platform viruses were the future.

The code was then placed on the net so people could have a play with it. Linux boffins had a go at it

and found it was old code and wouldn't run on any kernels later than 2.6.16. End of story, you'd think; hurrah for Linux and the safety of all who sail in her.

Not quite, a particularly adept individual then created a patch for the virus so that it ran perfectly on the latest kernel. Curse those evil, code-fiddlers? Again, no. It turned out to be none other than Linux big cheese Linus Torvalds himself. He was apparently interested in the

virus as at its core it was simply a regular program that happened to run quite happily on both the Windows and Linux operating systems and had no problems affecting the different files therein.

Rather than a case of curiosity killed the kernel, the hope is that this application will lead to some interesting new developments in cross-platform development between Windows and Linux. We'll keep you posted.



Taking the MiG

News reached us this month that a Chinese businessman recently purchased a MiG 21-F jet fighter on eBay for the paltry sum of \$24,730 (around £14,000). The former Czech Republic plane was reported to be in full working order

after an independent inspection and last saw active duty in 1995.

The trouble for the newly armed and dangerous Zhang Cheng is that the Chinese government is now in something of a quandary as to whether the auction constitutes an arms deal

or not. Either way, shipping the fighter from Lewiston, Idaho so it can be installed as a talking point in Zhang Cheng's office complex is going to be something of a nightmare. Perhaps a retired pilot willing to deliver it could be found on eBay too?



Win! Arty t-shirts to confound and amuse

The internet is founded upon two things – pictures of people's cats and funny t-shirts. If you've yet to import a clever t-shirt from America, you don't know how to use the web. Fortunately, web start-up Splittheatom.com enables you to order up a range of curiously-slogan-embazoned shirts – designed by respected illustrators from around the globe – but from the UK. There's a range of excellent shirts already available, plus you can vote on a range of prospective designs from budding artists in order to influence whether or

not it becomes a purchasable shirt of its own. The stuff of dreams... Splittheatom.com has kindly provided us with five of its splendidest shirts to give away to PCF readers. Of course, we're aware you're impeccably dressed as it is, but that's no reason not to look even better. Plus, because Splittheatom's so new, there's little chance of bumping into someone wearing the same shirt as you, hence maximum cool points.

To be in with a chance of winning one of the five shirts, head over to www.splittheatom.com

or pcformat.co.uk, click the competitions tab and answer the following simple question:

What happens if you split an atom?

- a) You find a toy prize inside
- b) It divides into protons and neurons
- c) It creates a black hole

Meantime nip over to www.splittheatom.com to browse and buy their fine range of torso-concealing garments.

Competition closing date – 20 July 2006
Terms and conditions are on the website.

Clone wars

Pirates hijack the good ship NEC

Some people would say the logical next step after successfully setting up a business cloning existing hardware would be to use that expertise to begin creating your own brand. Oh no, why stop there? Enterprising chaps in China, arguably the Mecca of intellectual property theft, have managed to clone an entire company.

Japanese electronics giant NEC had reports in 2004 that pirated keyboards and optical media bearing its name were on sale in outlets in Beijing and Hong Kong, and dutifully set out to track the pirates.

The investigation took two years and recently came back with the surprising news that it wasn't just a few little backstreet workshops pumping out dodgy copies of NEC

products, but a national ring of some fifty factories and warehouses – some proudly displaying the brand in big letters – producing decent quality replica tech.

The ambitious pirates even carried NEC business cards, commissioned research and created their own product ranges. Some of the raided factories still claimed to be legitimately producing licensed technology and had documentation that the pirates had provided them with. The real kicker, for both company and consumer, is that cloned devices have been found alongside real NEC products in genuine, legitimate retail outlets as far as mainland Europe. So, could that DVD drive in your PC be waving a Jolly Roger flag when you're not looking?



NEWS IN BRIEF

Shipment Scent

In addition to the regulation steely glares and dispassionate groping, we may soon have to face another challenge in the obstacle course that is airport security and customs. The MPAA has managed to train dogs to sniff out DVDs, in the hope of intercepting pirated discs. Currently the two Labradors are only tasked with interrogating FedEx parcels, but surely it can't be long before we find them worrying laptop bags and tugging at rucksacks? Perhaps we should start burying our DVDs inside bags of cocaine to throw them off the scent.

Test run

By the time you thumb these pages, a fortunate (or perhaps unfortunate) collection of 120 Scottish students will have taken Britain's first online exam, a multiple choice 'paper' in biotechnology. We hope the Scottish Qualifications Authority has found a secure way of transmitting the results across the net. We also hope it has managed to prevent the possibility of some ill-educated goon jamming a USB key into their test kiosk and installing a system crippling virus.

XXX axed

The heavy sigh of a thousand porn barons echoed across the internet this month as the long discussed plans for a dedicated, but voluntary, .xxx internet domain suffix finally ran aground. Originally suggested in 2001 as a means to make it easier for those seeking out pornography to find it, and those attempting to steer clear of the wobbling flesh and unconvincing moans to avoid it, the proposal received criticism from conservative groups claiming it would legitimise the 'pastime'.

QUOTE!

"I felt intuitively I got the price. Suddenly the radio started playing an Elvis song. That was Elvis telling me we got the house." Uri Geller on buying Elvis' first house on eBay.

Pay-per-cast

Latest UN proposal to restrict pod and vodcasting fails

Beginning a morning with a spot of idle internet browsing is easy, but before you know it 16 hours of your life has disappeared, and all you've got to show for it is a few open Messenger windows, from which you've sent dozens of funny/strange/horrifying links to the multifarious free video and audio on the web to friends. This bold new way of life is under threat, however.

The UN World Intellectual Property Organization's Standing Committee has been trying to redraft its Broadcasting Treaty to encompass webcasting for some time. Although most countries agreed in 2004 that broadcasters shouldn't be able to rub their dirty fingers all over web-based video and audio, in May a new proposal, placing rights to web content in the hands of broadcasters rather than creators, was blocked, but very probably not forever.

In short, the proposal would have prevented the re-transmission of any web media without the express permission of the company (ie. site) that hosts and distributes it, rather than its original author. This includes video and audio flagged as public public domain and Creative Commons – so, you might film a funny video of your cat wearing a mumu then slap it up on Yahoo! Video, YouTube or wherever for all to enjoy, only to discover that no-one's allowed to share it (whether that's hosting it on a mate's blog or reformatting it for use on a new device, for example a next-generation iPod) unless they ask the hoster politely.

In other words, you might make it, but someone else will own it – for fifty years. Fortunately, the US-proposed amendment to the treaty wasn't accepted as is, and will for now focus only on preventing signal theft – spreading copyright video (in most cases, content recorded from television) all over the internet. However, this is an interim measure – a separate treaty aimed solely at webcasting and multicasting is to be drafted and discussed further down the line. The net is safe, but for how long?

Bureaucracy and greed is in danger of killing the video star.



Jeremy Laird
RETAIL REMORSE

NVIDIA is going SLI crazy. Well, enough is enough SLI. It's NVIDIA's knight in HDR-rendered armour. The first all-digital multi-GPU technology, it's driven sales of both motherboards and graphics cards and snatched victory from the jaws of defeat in the face of ATI's impressive X1000 GPUs (see news analysis on p20).

But with the launch of the latest instalment in the SLI saga, has NVIDIA pushed its luck too far? Well, if making the argument for two GPUs is tough, in terms of bang for buck at least, adding another pair of pixel mashers into the mix for so-called Quad SLI looks like sheer decadence. Making matters worse, the first Quad SLI platforms to break the surface appear to offer extremely patchy performance – not the shining debut we'd hoped. For NVIDIA's sake, let's pray for an upcoming driver revision that delivers the goods. After a slightly rocky introduction in the summer of '04, SLI has undoubtedly been shaped into an extremely successful brand. The last thing NVIDIA should do is remind people of the dubious value of SLI courtesy of a flakey, and some would say entirely unnecessary, quad-GPU offering.

Gearredup

THE HARDWARE ON OUR MOST WANTED LIST

Projection powerhouse

↓ Canon XEED SX-60

Price £2,500 Available Now Web www.canon.co.uk

Forget wall-sized plasmas, 60-inch LCD panels and rear-projection sets the size of a small pony. To get the most dramatic experience possible from next-gen video disks (that'll be HD-DVD and Blu-ray) you're going to need a projector. Unfortunately, Texas Instruments is milking its DLP patent for all it's worth, preventing the release of affordable projectors capable of doing justice to high end HD content. But here's an intriguing alternative from

Canon. With a native resolution of 1,400x1,050 pixels, it's not quite the full 1080i/p Monty. However, it will still show the 1,024x768 masses a very accurately rendered pair of heels, as well as give the latest 1,280x768 DLPs an extremely firm spanking. By any image quality metrics you care to mention, it's certainly no slouch, thanks to a 2,000:1 contrast rating and 2,500 lumens of beautiful, retina-piercing brightness. **Brilliant beamer**

Movie madness

In standard mode, the SX-60 sports a rather pedestrian 1,000:1 contrast ratio. But there's also a cinema mode that bumps contrast performance up to a much more satisfactory 2,000:1.

Encryption racket

Like it or loathe it, the movie industry's latest effort to thwart those nasty content pirates, otherwise known as HDCP is coming. Of course, it'll probably be cracked wide open in a matter of months. But the SX-60's fully HDCP-compliant DVI port still provides peace of mind.

Big screen gaming

With a native resolution of 1,400x1,050, this puppy has a seriously tight pixel grid. If its predecessor, the SX-50, is anything to go by, Canon's latest could well be the ultimate gaming

Projector on a chip

LCD or DLP? That is the question. And Canon's novel answer is LCOS. Or liquid crystal on silicon, to the uninitiated. It's a new take on projector technology that promises to bring bright HD resolutions to the mass market.

Graphical gravitas

→ GECUBE X1900GT

Price £200 Available Now Web www.gecube.com

With just 12 pixel pipelines on offer, ATI's latest affordable high performance 3D chipset is underwhelming at first glance. After all, NVIDIA will flog you a 7600 GT with 12 pipes for under £150. But not so fast. As an X1900 derivative, this card boasts ATI's triple-wide pixel shader architecture, serving up a grand total of 36 fragment shader units compared with the 7600's tally of 12. It also boasts the full compliment of eight vertex processing units as well as healthy core and memory clockspeeds of 575MHz and 1.2GHz respectively. And as a derivative of a flagship board rather than a pure midrange part, this is the real 256-bit-memory-interface deal, with plenty of bandwidth for high resolutions and anti-aliasing. **Treble heft**

Svelte speedster



Dell Inspiron XPS M1210

Price £TBA Available Summer Web www.dell.co.uk

If Apple's sublime MacBook Pro is the sexist 17-incher in town, there's a very good chance that you're looking at the 12-inch weapon of choice for gaming and multimedia enthusiasts. In a first for this form factor, Dell has specced up the XPS M1210 with bona fide discreet graphics. Granted the choice of GeForce 7300 or Radeon X1300 GPUs is hardly a recipe for tearing through the latest HDR-capable game engines. But with a 12-inch 1,280x800 widescreen display, a Core Duo processor onboard and an integrated optical drive, this latest XPS looks perilously close to being portable computing perfection. **Compact class act**

Mac daddy



Apple MacBook Pro 17-inch

Price £1,999 Available Now Web www.apple.com/uk

April 5th 2006. Ground zero for Apple's Boot Camp dual booting technology. And the beginning of the end for Microsoft's evil empire? Well, let's not get ahead of ourselves, kids. The ability to boot both Apple's own OSX and Windows XP has made the new 17-inch MacBook Pro a serious contender in the desktop replacement notebook sector. It's far from cheap, but for desirability, engineering integrity and anodised alloy lushness there isn't another laptop that's in the same ballpark – and while it may languish for games (see page 147 for benchmarks of the 15-inch version), the stock components can easily be overclocked. Also see the new MacBooks – they're £749 new, and available in black. **Boot champ**

GIGABYTE™ TECHNOLOGY



Performance DNA

Security DNA

GIGABYTE iDNA
GA-8N-SLI Quad Royal

Bizarre board



Gigabyte GA-8N-SLI Quad Royal

Price £135 Available Now Web www.gigabyte.com.tw

It may be straightforward enough to make an argument in favour of NVIDIA's multi-GPU SLI technology. Although all, a single powerful but pricey card is in most ways a safer bet than a tag team of bargain basement boards. But what on Earth are we to make of this quad-slot Gigabyte board? Well, you certainly can't just chuck in a quartet of video cards for a quad-SLI configuration. The current arrangement of the SLI bridges simply won't allow it. So, what exactly is the point of this board? Other than an eight-way desktop, we'll admit to being slightly stumped until we have a hands-on with it. **SLI strangeness**



PREVIEW HARD DISK DRIVES

Capacious catch



Seagate Barracuda 7200.10 750GB

Price £300+ Available Summer Web www.seagate.com

Performance or capacity, that damn well should be the prevailing dichotomy in the hard disk market. But Western Digital's 10,000rpm Raptors aside, the reality is a sea of 7,200rpm homogeneity. And superficially, this new Seagate beast does nothing to change that, thanks to its 7,200rpm spindle speed. But get a load of the 750GB capacity. If you're wondering how on Gates' green earth you're going to find space for all those (completely legit) HD movies, here, surely, is your answer. Even better, the high data density enabled by the drive's perpendicular recording tech also translates into excellent data transfer speeds. Add in a healthy 16MB of cache and SATA-300 and you have an extremely likely candidate for the fastest 7,200rpm drive in town. The perfect single-drive performance vs capacity compromise for that compact media centre PC? Almost definitely. **Perpendicular prowess**

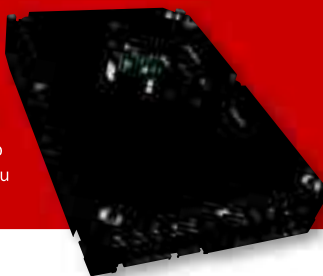
Three alternatives...

Western Digital Raptor X



Price £225 Available Now
Web www.wdraptorx.com

150GB. 10,000rpm. Simply the fastest desktop hard drive in the world. Not the biggest or the cheapest, but if it's top drawer performance you crave, look no further.



Hitachi Deskstar 7K500



Price £225 Available Now
Web www.hgst.com

The original 500GB bucket. No longer the biggest beast in the jungle, but bound to get cheaper now that Seagate's 750GB monster has woken up and started prowling.



Maxtor DiamondMax 11 500GB



Price £165 Available Now
Web www.maxtor.com

A filthy big 500GB drive for a dirt cheap £165? That'll be the Maxtor DiamondMax 11. Why not buy two of them and enter the Era of Tera?



ANALYSIS

DONGLE OF DEATH THE CROSSFIRE CONUNDRUM



Performance, features and image quality. On each and every count ATI's Radeon X1900 XTX is king of the hill. With massive pixel shading power from its triple-wide shader array, unique support for simultaneous FP16 HDR rendering and anti-aliasing, superior dynamic shader branching and the best anisotropic filtering in the business the X1900 simply can't be beat, right?

Wrong. Troll your average tech-orientated web forum and it quickly becomes obvious that enthusiasts are voting with their wallets for NVIDIA's 7900 GTX. A card that's slower, more expensive and offers fewer features than ATI finest. And the explanation is simple: SLI. Granted, multiple-GPU technology isn't quite the paragon of virtue it should be – a single powerful and relatively expensive card will always be a more reliable performer than two cheaper cards in tandem. But in marketing terms, there's no denying SLI has been a smash hit for NVIDIA. Just the promise of being able to drop in another graphics card six months down the road is enough to have punters plumping for SLI. Simply bag any card with the same chipset to your current board, slap it in and watch it fly.

In pure performance terms, CrossFire is at least as good as SLI. That, however, counts for little thanks to Crossfire's Achilles heel – the need for a special master card and a proprietary dongle to connect it to a standard slave board. It's simply impossible, for instance, to buy an X1900 XT today with complete confidence that you'll be able to pick up another,

much cheaper example nine to 12 months on. Short of chancing it on eBay, you'd be brave to assume that X1900 Crossfire cards will still be available. Of course, you could pay a premium for a lone X1900 mastercard up front. But who wants X1900 XT performance for X1900 XTX money? For ATI's sake, here's hoping reports that both mastercard and dongle will be dropped for the upcoming R600 ring true.

ATI's failure to take full advantage of the dual card mania has cost the company.



Gameslatest

THE FUTURE OF PC GAMING



James Carey
E3 EXPERT

A bad day in LA? Trust me, there's such thing...

Though you're reading this a good month after the fact, it just so happens I flew in from E3 yesterday, so forgive the jet-lagged rambling. Crikey, what a show. It was my first trip out to the smog but I felt right at home. The quality of the games this year was outstanding; the PC especially making its presence felt as the premier platform.

I must admit though that it's somewhat depressing that *Spore* was the best game there. It made everything else look like a bland reiteration of an old idea and it's absolutely my game of the show, but it was also the best game of last year. If Will Wright is the only guy who's doing something really innovative two years running, we're in serious trouble.

But the PC didn't get all the glory, I fervently hope we get to see the amazing looking *Assassin's Creed* on PC, so far it's only confirmed for the PS3. The line from the devs is that because the medieval stealth 'em up makes heavy use of the Sony console's unique eight-core Cell processor, porting to other platforms will be tricky. If ever there was a case for pushing quad-core PCs, this was it.

Medieval II: Total War



We've seen the future...

E3 in some-new-games shocker!

WEB www.e3insider.com

Despite Games Ed Carey repeatedly bemoaning the fact that *Spore* was still the game of the show this year, there were still a few firsts up the sleeve of the games industry's biggest event.

First plays of the long-awaited *Huxley*, *Warhammer Online*, *Mark of Chaos*,

teeming show floor. Of these 'publicly' playable games it was somewhat surprising that the *Huxley* and *Enemy Territory: Quake Wars* stands seemed to be attracting the big queues, leaving EA's *Battlefield 2142* and *Crysis* pods busy, but far from snowed under (relatively speaking) for the

"Coming back to 'current' games was a comedown and no mistake"

Enemy Territory: Quake Wars, *PhysX* tour de force *CellFactor*, *Battlefield 2142* and the drop-dead gorgeous *Crysis* among others were all available publicly on the

duration of the enormous three-day show.

PCFormat took the time to get several rounds of *ET: QW* in, though we'll guiltily admit we got some help



Despite looking this good, *Crysis* wasn't the hit of E3.



The latest instalment of C&C looks very promising.

jumping the queue. The buzz around the stand was palpable, and every game we played was a balanced, intense fight. It certainly bodes well.

The thing that stood out most though, was overall visual quality. Game after gorgeous game dazzled the eyeballs, each one upping the ante. *Supreme Commander* looked fantastic, but was trumped by a new *Command & Conquer*. The same went for *Haze*, *Crysis*, *Mark of Chaos*, *Medieval II*, *Alone in the Dark* and *Bioshock*; the list goes on. Our expectations of what

PC games could look like leapt by the hour, leaving us spoilt beyond remedy.

Coming back to 'current' games was a comedown. Vista's bringing an amazing future with it and games have never looked better.

GOSSIP!

"I've spoken to people doing [DLC], but I really hope it doesn't come to that..." Hellgate's Bill Roper at E3, talking about the terrifying prospect of having to pay for patches.

"This isn't just interaction, this is full-blown creation"

Spore

And on the sixth day, He said:
"Why don't you have a go?"

DUE DATE TBA **PUBLISHER** Electronic Arts
DEVELOPER Maxis **WEB** www.spore.com

The God sim has been around since Adam (that's Oxford, not the biblical figure) was a lad. It's just over two decades since Activision's *Little Computer People* first gave hitherto innocent gamers ideas above their station. Since then the genre has expanded exponentially in scope as well as polish. *Populous* and *Black & White* creator Peter Molyneux has been battling it out for the unofficial title of God Game Overlord with Will Wright (of *Sim City* and *The Sims* fame) for years.

Even if *Black & White 2* hadn't failed to live up to its billing so spectacularly, Mr. Wright's latest project, *Spore*, would still be the most exciting thing ever. This isn't just interaction with people, prodding them in certain directions, this is full-blown creation.

Starting with a simple microbe you must evolve your species through six distinct phases of life, from fighting your way out of the microscopic levels all the way to interstellar travel and space exploration. The world your creatures inhabit is full of other species, plants, buildings and vehicles developed by other gamers and downloaded from a core server. This server chooses for you which of these are best suited to your environment, experience and your creation's abilities.

The scope of *Spore* is truly vast, with a conservative estimate of a hundred thousand unique star systems to explore and interact with, you are most definitely not alone.

Spore, Will Wright's latest creation, really has to be seen to be believed.

in the pipeline

Who needs that curiously coiffed fortune-teller at the local carnival?

JULY

Civilisation IV: Warlords

The first expansion for *Civilisation IV* gives us the usual new scenarios but also the Warlord character. These Great People emerge as your civilisation grows and attach themselves to boost military units. www.civiv.com

SUMMER

International Cricket Captain 2006

With the Summer rolling along and the only cricket watchable for the masses being exclusively Sky-bound, *ICC2006* is aiming to capture the imaginations of cricket fans. Kevin Pietersen's mug on the cover won't do it any harm, either.

www.xplosiv.net



Rome Total War: Alexander

Forget the tragic Colin Farrell vehicle that dirtied up our cinemas, this expansion – exclusively available via download – features none other than *Flash Gordon*'s Brian Blessed and a whole new campaign map.

www.totalwar.com





Battle the assembled hordes of Sauron from your home...

Hopefully, all those people who started reading the *Lord of the Rings* books after seeing the films and thinking: 'I know what I'll read on holiday...' have finally finished them. Their timing is perfect, too, as Turbine has almost finishing the licensed MMORPG, **Lord of the Rings Online: Shadow of Angmar**.

With full license to use content from all three books, plus **The Hobbit**, most online gamers are frothing at the mouth with unconcealed desperation to get their sweaty mitts on the game. Knowing this we've pulled out all the stops to bring you this very special Beta Eater.

We have 100 – yes, that's one hundred – secured keys for the forthcoming beta. Email us at beateater@futurenet.co.uk with **LOTRO** as the subject header and the answer to this extremely simple question:

Who directed the Lord of the Rings movies?

- a) Peter Weller
- b) Peter Jackson
- c) Paul Weller



"They have a cave troll. What was Quick Save again?"

Civ City Rome

Sid isn't part of the development team for Rome. Instead, Firaxis has teamed up with the brains behind the *Stronghold* games, Firefly Studios. Looks good, but faces stiff competition from *Caesar IV*. www.2kgames.com/civcityrome



SUMMER

Star Trek Legacy

There are Klingons on the starboard bow because we're all friends now, apparently

DUE DATE Autumn
PUBLISHER Bethesda
DEVELOPER Mad Doc Software
WEB startrek.bethsoft.com

Not since Interplay's

brilliant *25th Anniversary* have Trekkies had any really good PC games to immerse themselves in. They've had to make do with homespun mods for *Homeworld* and *Haegemonia*, which, while

good add-ons, just lack a little bit of quality.

Fresh from its all-conquering masterpiece, *Oblivion*, Bethesda has teamed up with *Star Trek Armada*'s creator, Mad Doc, to produce what is looking like the best *Trek* game ever. It combines all five epochs of the late Gene Roddenberry's series, so

now you can see who'd really win a space battle between Kirk and Picard.

We're not talking quick dogfights here, these are more like the nautical battles of a few centuries ago, with enormous ships taking their time to batter the living hell out of each other until one finally explodes or limps away.

F.E.A.R. Extraction Point

Fear, thy name is Alma

DUE DATE Autumn
PUBLISHER Vivendi Games
DEVELOPER TimeGate Studios
WEB www.whatisfear.com

To us, **Alma** has never been the sort of name you associate with a supernaturally powerful psychic, hell-bent on destruction. Nevertheless, psychic she is and now she's out on the town too.

Kicking off just as the original game ends, this first expansion pack for the spooky shooter finds you and the First Encounter Assault Recon team battling Alma and her freaky minions around a ruined city.

We're promised more close-quarters combat, so you're unlikely to be getting into open, city-wide battles, just plenty

Expect more visceral thrills, now with added gore.



of chances to rearrange the insides of new, very dark and probably very creepy buildings. Sounds good to us.

TimeGate Studios is developing the expansion with help from Monolith Productions, although it seems that the original devs are taking more of a back seat this time.

SEPTEMBER



The Ship

This is a murder mystery with a twist: you're the murderer and the victim is the mystery itself. Mindscape is now giving this Source-powered version of the smash hit *Half-Life* mod a full commercial release. www.theshiponline.com



Night Watch

In a twist on most movie tie-ins' tiresome penchant for derivative first or third-person action shooters, the game version of what is widely seen as the most successful Russian-made film ever is all set to be a turn-based, vampire-mashing RPG. Sounds like one to watch to us. www.nival.com/nightwatch

Haze

Sadly it's not purple, and has nothing to do with Hendrix

DUE DATE TBA **PUBLISHER** Ubisoft
DEVELOPER Free Radical **WEB** www.hazegame.com

Turning up late at a party where everyone else knows each other has never been easy – but imagine what it's like turning up as a raw recruit into a futuristic South American conflict seeking fulfilment through war. Sounds tricky, right?

Until recently, *Haze* was known outside Ubisoft purely as *Game 5*, but E3 has changed all that. Now we know that it is, in actuality, the next game out of the thoroughbred stables of Free Radical, the creator of the hugely successful *Time Splitters* franchise.

Unfortunately, the South American jungle levels suffer from the inevitable comparisons with Crytek's new baby, *Crysis*. As you can see from the shot here, however, they're still jaw-droppingly gorgeous. In keeping with Free Radical's roots roots though, *Haze* more than makes up for this slight drawback with its wickedly dark sense of humour.

Sailing dangerously close to the wind, it plays on the somewhat timely themes of occupying forces, except these guys are going nutso on government-prescribed drugs. So, at least they have an excuse. Mixed in with all that are the shades of *Starship Troopers*' totalitarian military regime transposed into a privately run, corporate militia. Oo-er.

"The South American jungle levels are all jaw-droppingly gorgeous"

A drug-addled private militia running amok in the jungle? That's sure to end peacefully.

OCTOBER

Sid Meier's Railroads

Snuggling back up with the series' original creator, Sid Meier, the oddly addictive rail empire-building game is back. Again. As well as the excellent business modelling side of things, you now have the option to design your very own trains.

www.2kgames.com



Reservoir Dogs

Filling in the blanks left by the film and not leaving you to star as a dying undercover policeman bleeding his last, this tie-in has you playing all the characters, while the super sounds of the Seventies keep on coming.

www.eidos.co.uk

AUTUMN

Brothers In Arms: Hell's Highway

Gearbox announced at E3 that the third in the BiA series will be delayed until next spring. You'll be back in the familiar boots of the 101st Airborne, with the support of the Unreal Engine 3 and a new artillery squad. www.biagame.com





Prey

Not *another* Native American-themed *Descent*-style shooter...

DUE DATE 14th July
PUBLISHER 2K Games
DEVELOPER Human Head Studios
WEB www.2kgames.com/prey

PCF first encountered
Prey during the Era of Gril. Recently, though, we had a chance to get a fresh peek at the near-complete game. On initial inspection it feels like a boggo corridor

shooter. You're kidnapped by aliens, dumped on their ship, find a gun and have to blast your way out. Where it side-swipes you, however, is the total disorientation that comes with the changing gravity aboard craft.

The wall-walks and gravity switches mean you constantly have to remind yourself exactly where up is,

just in case you fall head-first into what you thought was the ceiling.

It's very reminiscent of *Descent*. The gravity effects make for brilliant deathmatches, too. We found hiding on the ceiling and firing on your foes' heads thoroughly rewarding.

The Native American mythological elements

unfortunately seem fairly gimmicky. Your spirit can travel through electrical barriers that normal mortals can't bypass, but can then be stopped in its ethereal tracks by something as simple as a wire fence. You do get a very funky other-worldly bow and arrow combo though, which almost makes up for it.

Call of Juarez

Grab a Bible and do some shooting

DUE DATE Summer
PUBLISHER Ascaron
DEVELOPER Techland
WEB www.callofjuarez.com

Things looked great for Western fans with the current rejuvenation of the genre seemingly in full swing. You had the fantastically dark and dirty TV show *Deadwood*, making a star of *Lovejoy* supremo Ian McShane all over again, and the Wild West-inspired *Firefly*. Then the tragically flawed *Gun* laid everyone low again with its half-donkeyed gaming.

Suddenly, almost out of nowhere comes *Call of Juarez* with its rolling western landscapes, injuns and varmints. Riding around on your horse, hunting rabbits with a bow and arrow,

we had half the office stopping by and asking why we were still playing *Oblivion*. It looks that purdy.

Playing as either a washed-up, gunslinging preacher or the outlaw he's chasing down, you'll be taken through a beautifully realised Western world. All the trappings of the genre are there to see, from quickdraw gunfights to high-speed shootouts.

One of the standout features of the preview code, though admittedly slightly silly, is the opportunity as the preacher to fight with bible in one hand and peacemaker in the other. Quoting from the Good Book causes a split second of hesitation in the enemy which you can then use to expose the back of their head from the inside out.



Nothing says 'repent' like a Colt .45, after all.

2007

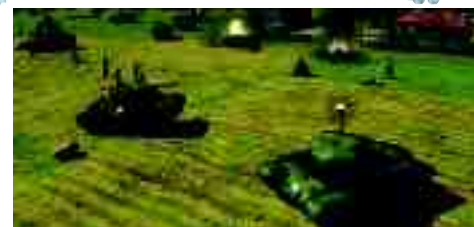
Soccer Fury

Bonkers cage fighting crossed with three-a-side football? Sounds like yet another wacky Korean MMO to us. Using trick moves and martial arts combos you must develop your character and join with other players to form up your reassuringly 'street' team.
www.soccer-fury.com



Colin McRae 2007

After taking two years off, the Lord of all rally franchises is looking to hit the dirt running and refreshed. As well as the standard pillar-to-post racing we're promised a selection of off-road events like rally cross and hill climbing.
www.codemasters.co.uk



War Leaders Clash of Nations

It was only a matter of time before *Total War*'s style of play was co-opted to a more modern conflict. Spanish dev Enigma is planning a World War 2-based mix of turn-based and real-time strategy to slot into this hitherto gaping void.
www.warleaders-game.com



Watchthisspace

JIM ROSSIGNOL CONSTRUCTS HIS OWN FUTURE

The universal constructor

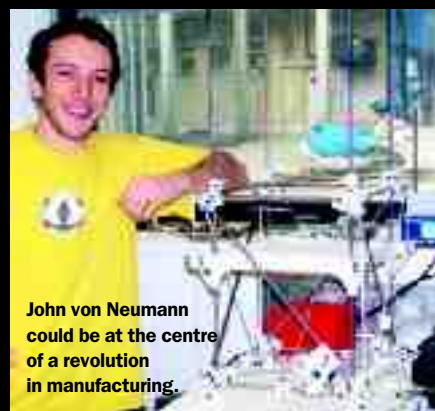
University students attempt to create a self-replicating manufacturing machine

John von Neumann was one of the great minds of the 20th Century, but like many polymaths, it has fallen to others to make practical use of his ideas. In the book *The Theory of Self-Reproducing Automata*, von Neumann outlined the idea of a machine that would be able to produce itself, a proposition called the Universal Constructor.

This might be couched in sci-fi terminology, but the reality is fairly mundane. It's a 3D printer that can print itself. This idea has been taken up by Bath University, which is using the idea of 'rapid prototyping' (where a machine is able to create the parts needed to build things on demand, including itself) to attempt to create just such a self-replicating machine. Right now the device isn't complex enough to build some of the

parts it needs, such as microchips, but if such projects are successful then it could change the nature of manufacturing and, therefore, the very face of economics.

This is, without doubt, the most radical technological concept under development in the world today, because it will change how people obtain consumer goods, as the Bath team explained. "I have no need to buy a spare part for my broken vacuum cleaner when I can download one from the Web; indeed, I can download the entire vacuum cleaner. I just need to be able to buy standard parts and materials at the supermarket alongside my weekly groceries. The self-copying rapid-prototyping machine will allow people to manufacture for themselves many of the things they want,



John von Neumann could be at the centre of a revolution in manufacturing.

including the machine that does the manufacturing in the first place."

Potentially, these constructors could end consumerism as we know it today – each machine being a recycler that can feed off the junk created by itself and others of its ilk. The revolution? It started in PCFormat's home town... www.reprap.org

Robot wheelchair

The Japanese obsession with piloted robot-suits might have just found its starting point – in a device aimed to help the elderly and the disabled. A working prototype of a bipedal robot chair, controlled by two joysticks, was demonstrated to journalists at a news conference at the University of Tokyo. The designers say that it will be five years before the device will be practicable, but it should be able to climb stairs (currently a bit of a challenge for most wheelchairs) and carry heavy loads. www.waseda.jp



This month in Science
June, 1822

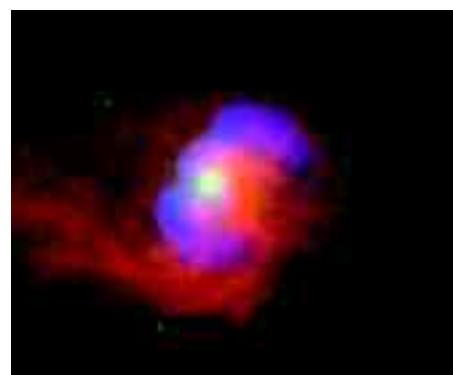
Charles Babbage proposed the 'difference engine' to the Royal Astronomical Society on the 14th June 1822. The machine was eventually finished by the London Science Museum in 1991.

Black hole news

Simulations and ultimate power sources?

NASA's attempts to understand black holes through computer simulations are well under way, and a new breakthrough reveals all kinds of facts about these bizarre dead stars. Previous attempts to calculate how the gravity waves emerging from two merging black holes would behave had regularly crashed NASA's supercomputers that were crunching Einstein's number puzzles. "These mergers are by far the most powerful events occurring in the universe, with each one generating more energy than all of the stars in the universe combined," explained NASA's Joan Centrella, but a new Black Hole simulator is ticking along with the task just fine.

Elsewhere the folks responsible for NASA's Chandra X-Ray Observatory have discovered that the super-massive black holes situated at the heart of most galaxies are the most energy efficient systems in the universe. "If you could make a car engine that was as efficient as one of these black holes, you could get about a billion miles out of a gallon of gas," said study team leader Steve Allen of Stanford University. We look forward to seeing car makers cramming super-massive black holes under the bonnets of their saloons in the next millennium. www.nasa.gov



Efficient, unlike your 1992 Vauxhall Nova.

NO-NONSENSE ADVICE

PCF Guide to...
Wireless
hotspots

Just how much of this sceptered isle now has internet-carrying radio signals buzzing through the skies above?

HOW MANY HOTSPOTS?

- more than 180 hotspots
- 161 to 180 hotspots
- 141 to 160 hotspots
- 121 to 140 hotspots
- 101 to 120 hotspots
- 81 to 100 hotspots
- 61 to 80 hotspots
- 41 to 60 hotspots
- 21 to 40 hotspots
- 1 to 20 hotspots

is your town WiFi-wise? Over 4,600 hotspots on our DVD.



Bristol Hotzone

Free WiFi across a full 3Km radius around Bristol town centre.

Quay Arts Is WiFi a good reason to go to the Isle of Wight?

Shugboria Student Network Stafford, ST179

Jolly Judge

Get pissed and surf for free in this Edinburgh pub.

Foyles Bookshop

London, WC2H 0EB

PierToPier A witty pun for Brighton's WiFi network.

Picture © Steve May

WHAT ARE WIFI HOTSPOTS?

If you've spent the last year on the Moon, let us tell you: you can now access the internet at broadband speeds from pubs, street corners, hotels, airports or even park benches. There's already more than 10,000 wireless hotspots in the UK and some cities even get blanket Wi-Fi zones through which you can surf the web. All you need is a WiFi enabled laptop, PDA or smartphone and if you haven't got one, you can always get a WiFi card to add wireless connectivity to your device.

WHERE CAN I GET IT

Not surprisingly, most WiFi hotspots can be found in urban areas – London alone boasts more than a thousand hotspots. Wireless access is offered in pubs and hotels, train stations and airports as well as libraries and parks. In Brighton you can even surf the web from the beach, and in Cardiff WiFi has been installed in a church. Some areas like Bristol's centre and London's Canary Wharf have zones for uninterrupted connectivity, so there's no reason to stay indoors this Summer.

WHO DO I NEED TO TALK TO?

The Cloud

Web www.thecloud.net Tel 0870 900 9434

This company is responsible for the roll-out of blanket Wi-Fi coverage in several UK city centres.

BT Openzone

Web www.btopenzone.com Tel 0800 169 1397

BT's Wi-Fi service, incorporating ReadyToSurf, claims to be the UK's leading hotspot provider. Has installed thousands of hotspots in public places.

T-Mobile

Web www.t-mobile.co.uk Tel 0800 956 5001

T-Mobile offers more than 2,000 hotspot locations in Britain, including Starbucks coffee bars and airport lounges.

Nintendo Wi-Fi

Web www.nintendowifi.co.uk Tel 0870 6060 247

Hotspots in stores like GAME, HMV and Toys R Us enable you to use your Nintendo DS over a wireless connection for free.

Skype Zones

Web www.skype.com/products/skypezones

The popular VoIP provider has rolled out more than 5,000 hotspots as part of its beta service, powered by wireless operator Boingo.

HOW MUCH DOES IT COST?

You can either pay on a Pay As You Go basis or get a subscription, which is significantly cheaper if you use it regularly. Obviously, you'd then need to find a hotspot offered by the provider you've got a subscription with. An hour of wireless access on PAYG will usually set you back anything from £4.50 to a whopping £6, compared to a tenner for a 250-minute subscription with BT Openzone. One of the most competitive offers comes from Skype Zones, which charges just €6.50 (around £4.50) for a month of unlimited access.

WHERE CAN I GET IT FOR FREE?

Most hotspots can be found in cafés, restaurants and hotels, but wireless connectivity is also free in Apple stores, and on National Express coaches between London and Cambridge. Many locations, however, just give you 'virtually' free hotspots. So, if you hook up to a network at your local pub, you're expected to buy a drink from time to time. Check out jiwire.com or www.wiffreenet.com to find your nearest free hotspot.

THE BEST GAMING BLOGS

Game Set Watch

www.gamesetwatch.com

Celebrating the more detailed and obscure side of videogames, we like Game Set Watch best because it doesn't just copy the same stories off all the other sites like the rest do.



Edge Online

www.edge-online.co.uk

Our sister magazine Edge's website is our preferred console news source. It focuses on the cultural side of gaming news, as well as the latest rumours from key markets like Japan and the States. But they really don't really like PC games all that much...

Joystiq

www.joystiq.com

The best thing about Joystiq is the Franglais spelling. The second best is the Pong-style banner at the top.

Kotaku

www.kotaku.com

We would like Kotaku as much as Joystiq, since the two websites are pretty much identical really. That said, we can't endorse a site that's rude about Kieron Gillen unless it's our own, so read blog.pcfomat.co.uk instead, as its critique of Mr Gillen makes all these pale amateruishly in comparison, frankly.

The webpages

THE LATEST ONLINE HAPPENINGS



A new online strategy and more 'user-created content' beckon...

Times really are changing. A new survey reveals that 60% of 16 to 24 year olds watch fewer than three hours of TV programming a week, of which one quarter watch nothing the BBC transmits. In response, the BBC is about to embark on a hefty online rethink, entitled Creative Future.

While a cause of these declining audience figures is the ever-increasing number of commercial channels, it is also due to the allure of the internet, and the Beeb knows that it has failed to meet this challenge. Recognising services like MySpace and digital distribution of media to iPods as its competitors, BBC Director General Mark Thompson stated: "We should aim to deliver public service content to our audiences in whatever media and on whatever device makes sense for them, whether they're at home or on the move."

A few slightly hokum phrases were thrown around at Thompson's conference, as he extolled the

The Future's Creative

The BBC unveils its Creative Future strategy, attempting to win over a new



Good manners

ICBE

Gentlemen of the audience, you are one of two types of man. You are either the man who hates the guy who, for some reason, feels the need to use the urinal immediately next to your own, despite empty bowls stretching to a vanishing point either side of you. Or you are that awful man. If it's the latter: BAD. BAD MAN.

Ladies of the audience, if you sprinkle when you tinkle, be a sweetie and wipe the seatie. And if you are the sort that talks to strangers across the stalls, BAD LADY.

Thankfully the infinite resources of the internet provide a clear, precise guide to correct crapper etiquette, so we needn't have this problem any longer. ICBE (the International Center for Bathroom Etiquette) is an exhaustive guide to correct urinary behaviour. Now there are no excuses.

www.icbe.org



Visual stimuli

FRESH PICS

Something the internet certainly has far too much of is so-called 'hilarious' pictures. We've all received humourless forwards containing sexist pictures, or some rubbish picture of a cat's head on a dog's body. Fresh Pics serves a fantastic purpose – it sorts the better pictures and posts them in themed collections.

And it works, too. You might not be interested in the collection of shiny Audi pictures, but nevertheless, the next post of Legoland sculptures will win your heart. Astonishing dusk photographs of Cambridge contrast with a set of beautiful pictures of hand-painted Ukrainian Easter eggs. Elaborate and joyfully decorated coffins from Ghana take you back, while furniture made from bicycles looks surprisingly comfortable. A real find.

freshpics.blogspot.com



Locomotion

CRABFU STEAMWORKS

You'll forgive your columnist for not providing coverage of the Crabfu website. He has something of a phobia of crabs, and doesn't appear able to look through the art section of the site, featuring the repulsive crustaceans (which, mark his words, will one day will rise against us, with lobsters as their steeds). However, this does leave the really rather remarkable other half of the site: the SteamWorks.

The fantastic miniature steam engines all run on the simple principle of water + hot = steam. The elaborate beasts take the form of tanks, marching robots, steam-driven crabs (shudder) and even a centipedal locomotive. The creator has no specific tools beyond a Dremel, and builds them from harvested parts of other devices. You have to watch the site's video.

www.crabfu.com/steamtoys

importance of "the digital age" in explaining why the corporation is re-evaluating its online presence. One of the more extreme examples of the Creative Future is the ambition to become the "premier destination for unsigned bands," as a part of a larger push to focus more heavily on online music across the entire network. This goes some way toward finally explaining why on earth the BBC News website gave so much coverage to the Arctic Monkeys and their internet-based success.

BBC 2.0

Everyone's favourite buzzwords, 'user-created content', have already proven popular behind the scenes at the BBC website, with its embrace of the Creative Commons licence in its BBC Backstage endeavour. Allowing users to manipulate BBC Online content for their own devices, many user-created tools have become publicly available and enhanced the main content of the Beeb's sites. Thompson wants to see this expanded across the entire network, making the services more malleable and accountable to their licence-paying users.

Other plans for the Creative Future include "drag and drop" television and radio stations within five years, extending the ambitions for the on-demand service that's currently in

beta. User-created channels will form the bulk of the beefed up BBC iPlayer, which currently allows access to the last seven days of radio, and selected television programming.

And to further increase user involvement, and presumably save the Beeb a big pile of cash into the bargain, Thompson announced that there will be a competition to redesign the main BBC website, following the examples set by sites such as YouTube and Wikipedia. **PCF**

"Drag-and-drop television and radio services will arrive in the next five years"



Salvation GOD LOVES SOLDIERS

If you're a soldier, you might be a little bit concerned that God doesn't love you because of all the blowing people up you do. Thankfully this entirely serious site exists to remind you that God definitely does love you, so keep shooting.

Using a remarkable amount of effort to speak directly to the soldiers out there, God Loves Soldiers has taken what might be considered a slightly clichéd approach to evangelism, but reinterpreted so it speaks directly into a soldier's heart, by putting some subtle camouflage patterns in the website's background.

Surely it can't be a good idea to camouflage a site intended to be read by people in the jungle, though? Losing laptops all over the place wouldn't encourage faith in even the kindest of hired killers.

godlovessoldiers.com



Health and safety PERSONAL INJURY WARNING SYSTEM

"Standard warning symbols often ignore or overlook the complexity of human actions," explains PIWS author Jonathan Corum. "As are the complexity of the injuries, both physical and psychological, that can arise from these actions."

Corum has created a timeline of his life, starting in 1973, with an umbilical severance causing a scar on his abdomen. The project chronicles every injury he sustained, with an accompanying warning symbol appropriate to the incident.

1987 saw a lighter fluid-assisted barbeque remove the hair from his right arm, while 2001 featured a bout of Giardiasis, caused by a parasite. In 2003 he managed to avoid SARS, despite visiting Hong Kong at the beginning of the outbreak. www.piws.org



Copyright watch

John Walker's not gloating... he's, well... OK, he's gloating

Web-based superhero lawyers' outfit the Electric Frontier Foundation (www.eff.org) has reported that evidence shown in court suggests that EMI and Universal Music Group might have lied to the Department of Justice in order to "throw federal investigators off the scent" in an antitrust investigation involving MusicNet and pressplay. It is, remarkably, all part of the original Napster case that is somehow still in the courts.

Yes, even though Napster is now a legitimate company suckling from the music industry's poisonous teat, the case rages on, currently in the ridiculous direction of suing those who invested in Napster. It's not going well for the prosecution. This constant dredging up of the past is uncovering uncomfortable facts for the poor, destitute music labels.

Back when Napster was still naughty (the same year that CD album sales grew at an unprecedented rate – don't forget that little gem), the RIAA launched two pathetic attempts at creating 'legitimate' alternatives to the much more favourably priced Napster: MusicNet and pressplay. Both were

failures, oddly enough, but their means of execution, and allegations of collusion, were enough to warrant an antitrust investigation from the US Department of Justice. No evidence of wrongdoing was found, and the RIAA celebrated by suing everyone it could find.

But oh dear. Some discrepancies have begun to emerge! It looks as though EMI and UMG might not have been entirely honest about claims of not having, er, helped each other out in a sort of illegal, colludey sort of way. In fact, the presiding judge actually stated, "The documents provided by [the defendant] provide reasonable cause to believe that the statements in the [labels' report to DoJ] were deliberately misleading, if not completely false."

The judge has ordered that previously withheld documents now be handed over by the labels. Attorney-client privilege would normally prevent such a thing, but the judge found it all rather serious. He revoked the right, explaining, "the court... finds reasonable cause to believe that the attorney's services were utilised in furtherance of the ongoing unlawful scheme."



Picture Chris Garbutt

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PCFMail



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SUBSCRIBE ON PAGE 150

DISCUSS HOT TOPICS AT forum.pcformat.co.uk

Fair use politics

I signed up to Toucan's Unlimited 2Mb service, at £17.99 per month, back in November via Uswitch. I visited the site, inspected its T&Cs – the usual things, including a Fair Use Policy (FUP) which said if I indulged in "excessive" activity during peak times (6-11 pm Mon-Fri, 12-4 pm weekends/bank holidays), I would be liable to receive a restricted service. As I use the service for nothing much more serious than online gaming (my son

plays WoW and Counter-Strike most evenings, and Windows and A/V updates, I (foolishly) thought there would be no problem.

Everything seemed pretty much OK until April, when my other son came home from university. One evening (when his brother wasn't gaming), he apparently downloaded a movie or two via P2P. Big mistake! Without any sort of warning I received an email from Toucan, the gist of which was that by downloading over

6GB in a week, I'd broken their FUP and would see my bandwidth throttled at peak times (which were now different from those in the FUP).

I've just had another email along the same lines, as usage was apparently 1.61GB this week. I'm afraid I don't see how this represents 'very high' or 'excessive' usage. Neither do I see how Toucan can advertise its service as 'unlimited', when it is, in reality, imposing an effective limit of somewhere around 5GB per month (it's quite hard to limit our activity to off-peak hours, during most of which we are all either asleep or at work/school). It's doubly difficult when it isn't made clear precisely what the peak hours are in the first place!

KIM MILES

kmiles@toucansurf.com

I am sure I didn't look for the most expensive service I could find. When I have signed up for internet services, screenshots of other companies on the Internet Referral Service (IRS) say from 1p a minute. The information of Supanets' charges are neither available on its IRS screenshot or their own website. Important information such as price and provision should be at the forefront so that customers can make an informed choice.

STEVEN KING

farmertaz@hotmail.com

PCF says £143? For dial-up? Ouch. Another warning that all PCF readers should read the small print before they sign up for service.

Tanks for this

In PCF186 you reviewed the game *Panzer Elite Action: Fields of Glory*. In the review it mentions Crusader and Valentine tanks as paper tigers. It doesn't mention the Matilda tank, which was used in Western Europe and Northern Africa. It had thick enough armour to withstand shells from the dreaded 88mm German anti-aircraft gun.

Also, you like the Firefox internet browser. On a computer I recently sold, a P4 1.4GHz 256MB RD-RAM, I installed Firefox, and it took about 10 seconds to load and some spy ware got on the computer.

I think Internet Explorer is much better, because it runs much faster than Firefox even on my new Sony Vaio (vgn-fs315m) laptop, on which Firefox takes about seven seconds to load.

DAN HYDE

dmasterhyde@gmail.com

Mail of the month

OVER TO YOU
Can you bear to take a holiday from your PC?
Turn to p162 to find out

We suffer from a problem north of the border. Everybody knows that you are better off buying online from reputable dealers rather than spending your hard-earned cash in the high street, paying even more for the same products. The problem is, if you live in what some companies call an 'outlying' or 'remote' area, any money you saved on the price gets more than swallowed up in the extra cost for delivery.

I live in a town called Forbes, in the North East of Scotland. I am 25 mins away from an international airport and 30 mins away from a city with national road and rail networks, international seaport and a Premier League football club, but because I have an IV prefix I am classed as remote!

Dabs charges me the normal cost of delivery PLUS an extra £11.75, because they reckon I live in an outlying area based on my postcode prefix. I can be sunning myself in the med within four hours of leaving my front door, and I can get next day delivery to England at no extra charge, so why must I wait longer and pay more for goods heading the other way?

I contacted Dabs, which, perhaps unsurprisingly blamed its courier (Parcel Force) for the prices. I also checked out

Komplett (another company on your 'recommended' list) to find that it almost doubles the delivery cost and adds an extra day onto the time taken. Again, the couriers are to blame.

Perhaps PCF would be willing to help highlight this issue and maybe we'll be able to get fair pricing for everyone?

Thanks for the rant and keep up the great work,

ANDY COLE

Forbes, Scotland

PCF says Thanks for bringing this to our attention – we'll forward your letter to the companies and the anti-courier campaign starts here. Your prize will cost twice as much, though. £0 x2 = £0. Congrats.



Mail in and win

We've teamed up with ace memory suppliers Crucial www.crucial.com/uk to give the author of our letter of the month a fantastic 512MB Gizmo! USB memory drive worth over £30. It works flawlessly with every version of Windows after Me.

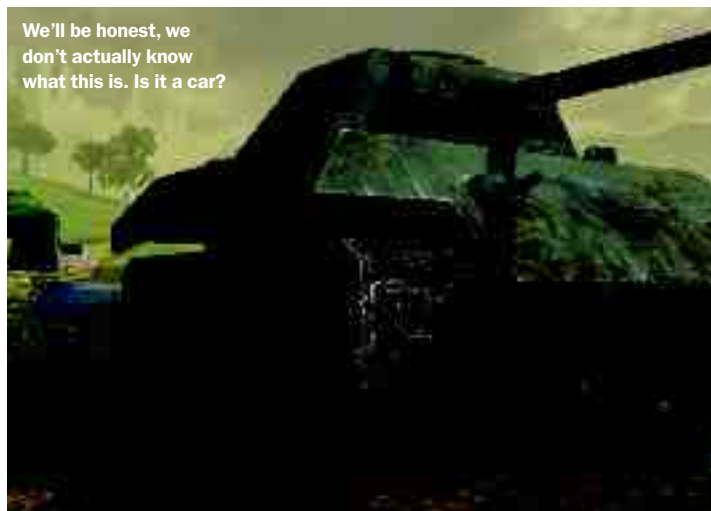
You can air your views and write to the team at PCF Mail, PCFormat, 30 Monmouth Street, Bath, BA1 2BW, or via email at the address below. Or you can visit our forum at forum.pcformat.co.uk.

pcfmail@futurenet.co.uk

More small print

I have just been stunned by my ISP. One month past and the telephone bill landed with a great thud. Over one month with Supanet, I totalled 47 hours on the internet which averaged out to one and a half hours per day. Not an excessive amount of internet usage for an IT network manager, however, the total of £143 seemed very excessive. The company answered with "You signed up for the most expensive package we have" which was 5 pence a minute.

We'll be honest, we don't actually know what this is. Is it a car?



Just doin' our job

I want to thank you for giving away a copy of *Real Basic* on your DVD. I spend countless hours, learning the language and writing simple applications. My *Half-Life 2* playtime is suffering as a result though!

BRIAN HILLARD
brianhillard@supanet.com

Still doing it

I was watching the news recently, and the presenter made a statement, while on an item about cracking down on filesharing, along the lines of "filesharing costs the music industry £400 million a year". I seem to be hearing more and more reports in the media that very obviously only present

one side of the story. At best, that figure is an estimate; and at worst it's a number plucked from the air by the BPI to try to justify using scare tactics. It's very rare to hear a story on how music sales are actually increasing.

I'm very glad that you're running your Copyright Watch column, but maybe now's the time to expand it. It'd be nice to see it as a regular feature rather than just a 'personal' column – that way it seems that the whole team are behind it. I'm not asking that you encourage 'illegal' filesharing, but you're one of the few media sources that is able to accurately present the other (true) side of the story.

Keep up the good work,
OLLY SULLIVAN
toomanyollys@hotmail.com

No love for Luis

I sent a letter to your Helpdesk (Ask Luis pages) and the reply was that I was a feeble minded idiot.

I expect an apology.

PETER ROWLEY
peter.rowley370@ntlworld.com

PCF says We're really are truly very sorry... that you don't 'get' Luis' form of wit. It is, of course, the lowest form – sarcasm. Besides, we don't think he ever referred to you as an idiot, and he did, in all fairness, answer your question reasonably comprehensively. Luis' belief that 'tough love' is the only way to help PC users help themselves is the result of many

years' experience solving problems and a general omnipotence that grants him greater wisdom than we mere mortals. The only way to learn from such a master, as the man himself is quick to remind us, is to accept one's own humility and the torrent of abuse it deserves. Some people, perversely, even enjoy it.

Correction

In PCF188's Supertest there was an error in the description of PCNextDay's rig. It actually had a 4800+ X2, Micron memory and an X-Fi soundcard. So... even more stunning, then. Sorry chaps!

DVD feedback special

PCF says Last month we changed our disc packaging for the first time in many years, ditching the CD edition and putting the DVD inside the mag. Controversial, it seems, and opinion is very heavily split.

As a subscriber of some years, and having just received my latest edition with the DVD in a paper sleeve, I have a suggestion for future editions. Perhaps you can either pre-punch two holes in the sleeve or have the sleeve pre-punched and loose leafed inside the magazine. This would allow users to keep all future discs and sleeves in order in a ring binder. You could even sell/give away a PCFormat ring binder. One binder could hold a couple of years issues of discs. Keep up the good work, you're still the best computer magazine by far.

TONY TRYTHALL

While I am absolutely certain the person who came up with the idea for an internal sleeve for the DVD supplied with PCFormat thought it was a great idea, simple, elegant, environmentally friendly (no plastic case to clog landfills no bag to suffocate seagulls, small pets) and, of course, cheap. You might want to have another look at the quality control at the bookbinders where the magazine is bound, though (see picture).

I always thought DVD's were supposed to be round, though I

admit the flat side would make it easier to stack them on a shelf.

Common sense did prevail and I wasn't tempted to pop it in the drive (just in case it might still work).

Sarcasm aside, any chance of a replacement? [Yes – Ed.]

FRANK

I was outraged to discover the new packing method for the DVD upon opening my subscription copy of PCFormat this evening.

I am a long term subscriber and have a very nice collection of your CDs & DVDs, all of them packaged correctly and nicely arranged and organised on my bookshelves.

With that in mind, do you really think I want to store the latest DVD in a tatty, flimsy cardboard cover amongst my current collection? Like hell I do!

I'm not sure who talked you into this but after you have hung him or her from the nearest lamppost by the most painful parts of his or her body, then please consider your readership and next month give them something they can actually display their cover DVD in without looking like a twat.

Thanks!

ANDREW BLUNDELL
Lancashire



And our forum said...

PCF188 - Wot no DVD case?

Find this thread at:

forum.pcformat.co.uk/viewtopic.php?t=41240

forum.pcformat.co.uk/viewtopic.php?t=41262

Issue 188 of PCFormat just landed on my desk and at first I thought the DVD had been swiped until I eventually flicked to page 98. Lo and behold there it was in an enveloped page!

I realise we all need to be 'environmentally friendly' now but I guarantee I will lose it by the end of the day.

WOBBLER

I remember the days when computer mags came with a cassette loosely stuck to the front with a bit of Sellotape. Youngsters these days don't know how good they've got it.

JOE

Congratulations on the more environmentally friendly packaging of the DVD. Saving all that plastic for card is a great idea for your green credentials. Promote it. Every little helps.

Instant reaction – I hated it, and cussed. Then considered the bigger picture. I rarely use the disc anyway, and it will only get tucked on an old spindle with the others.

LOUGHOUR,

Environmentally, brilliant. Practically, a pain in the ass.

LEMMINGSROCK



At first I thought you'd finally published an issue without a DVD. Then thought the DVD had been nicked. Then realised the CRAP that is the DVD holder inside.

What the hell is Future Publishing thinking? They make millions each year with all their mags. They have now discontinued the CD issue, they still charge £6.49, yet decided to dump the DVD case. What the hell? If you're gonna do that, drop the price.

GI JOE

Take it outside

Memory man A slew of memory cards and a card reader is essential – SD for cameras, CF for PDAs, Memory Stick Pro Duos for PSPs... Prices continue to fall off a cliff – a 1GB SD card is less than **£16** from sites such as www.ebuyer.co.uk

Essentials

Canon Digital IXUS i zoom camera, **£165**, www.amazon.co.uk
Blackberry 8700g portable communicator, **£380**, www.02.co.uk
Samsung YPZ5QB MP3 player, **£109**, www.hughesdirect.co.uk
Pinnacle PCTV 200e digital TV tuner, **£56**, www.dabs.com
Creative Truesound 200, **£31**, www.pcworld.co.uk

Unchained melodies

Battery powered speakers no longer make a noise like a cassette recording of two tramps fighting. Here, we're using the original Creative Truesound speakers, and Mag Digital's SP1010-1 MP3 Player@cube, which includes both 128Mb of built-in storage and an SD card slot, so you can load it with myriad MP3s. It's not available in the UK yet, but is due to be stocked at Maplin soon. www.mag-digital.com

Phone home

We might be out in the wilds of Bristol, but we still need to communicate with the office – ideally without putting down the frosty beers in our hands. Annelise is using wireless powers to order her art elves around, the Plantronics Explorer 320 Bluetooth headset. It's **£29** from www.pcupgrade.co.uk

Guilty secret

PCF staffers may be rabid about the PC, but the nature of publishing means – gasp! – the mag's pages are laid out on Apple Macs. So, the new Macbook Pro is perfect for our Art Editor Annelise, as it dual-boots between OSX and Windows XP – the former to beautify *PCFormat*, the second for diverse applications and gaming. 15.4". 2GHz Core Duo Macbook Pro, **£1,399**, www.apple.com/uk

Canned heat

The mag's usually fuelled by gruesome machine coffee, but a sunny day means beer – with the aid of increasingly ubiquitous mini-fridges. Cool It Mini Fridge, **£59**, www.boystoys.co.uk

Power out If you're only going away for a few days, hire an outdoor generator from somewhere like hireit.co.uk, but if you intend to make a habit of this sort of thing, you can pick up a leisure model from less than **£400**, www.generators.co.uk

Fetish gear On a hot day, you don't want boiling aluminium balanced about your short-clad loins. Asus' CoreDuo S6F is the answer. You see, it's coated in vegetarian-baiting leather. Strange, then, that our herbivore Dep Ed is using it. **£1,600**, www.lambda-tek.com



Silicon summer

Alec Meer and the *PCF* team leave the office behind on the happy wireless fun bus, with just a bag full of technology for company

Twenty years ago, the idea of a vacation with all mod cons was a weekend in English seaside holiday camp, the presence of a distressingly brown kettle and a sofa bed made from bricks somehow being considered being homely enough to compensate for waking up with ants in your eyes and an overwhelming desire to go and

suffocate yourself in the rain-soaked kiddies' sandpit.

The world has changed since then – most corners of it are now within easy reach, and you no longer have to drop off the social and cultural radar the second you leave your house. Sure, you can't take the hamster with you to Estonia, but you can enjoy your entire movie and music collection

as you traipse across the Serengeti, check your email on a PDA while hanging upside down to kiss the Blarney stone or recharge your laptop batteries (as well as your own) while lounging on a Red Sea beach.

Case in point – an unrelenting printing schedule meant the *PCF* team decided on a working holiday. We wanted a few days in

the sunshine, and figured we could do it while still making the magazine. There were two things that made this possible – an ever more diverse range of affordable portable gadgetry, and a renovated 1960s Bedford school bus. The latter is ideal both for dragging the staff off on a magical mystery tour, and for lining its many nooks and

Photo real In Samsung's SPP-2040 printer, we've found the perfect way to generate hard copies of those incriminating holiday shots, either via USB or the built in card reader. Unfortunately Al's bikini slip contravened several publishing decency laws and couldn't be reproduced here. **£83, www.dabs.com**

Hot lap This hunk of silver and silicon, which is cutting off the blood supply to Adam's leg, is the Fujitsu Siemens Amilo M 3438G, a contender in this month's Supertest (p145). A gorgeous 17-inch screen and feisty mobile Geforce 6800 mean it's ideal for outdoor deathmatch dust-ups. **£960.49, www.morecomputers.co.uk**

Holiday snaps Rear visibility in a bus is always going to be a problem, but with the added glare from all those shiny LCD panels, we had to cobble together a technological replacement for the humble mirror. Behold, with Creative's Live Cam Motion we had a perfect view of the thundering road, the verdant scenery and the pall of blue smoke that our rickety bus belched each time it got the merest whiff of an incline. **£95, www.creative.co.uk**

Wireless wanderers Despite the entirety of the bus being enough to cause even the most laissez faire health and safety officer a heart murmur, you won't see us tripping over the wires to our surround sound speakers. With the Creative Gigaworks G550W set, the two rear satellites are wireless, meaning you can position them wherever you please without having to trail thin black bunting across the ceiling. They're hardly a steal at **£294, www.creative.co.uk**

Red hot With its cherry red lid, the Rock Pegasus 650 certainly catches the sun nicely and you'll be pleased to hear it had the performance chops to rumble with the big boys in our Supertest. Run over to p145 for the final verdict. **£1,248, www.rockdirect.com**

Outdoor Origami The Origami portable standard being pushed by Microsoft has finally borne fruit. We've looked at the Samsung Q1 this month (p67) but the device clamped between Al's mitts is an EO Tablet Kiosk which contains a 1GHz VIA C7-M processor, up to 1GB ram and up to a 160GB hard drive. **£750, www.pocketpc-solutions.co.uk**

Screen break Ian Sinclair's London Orbital is apt for our techno trip, detailing as it does as tour of the M25 as Britain struggles to move between past and future.

Technophile Holiday Survival Kit For those still nursing a battered copy of *On The Road*, we've collected the best pocket sized gadgetry we could find. Clockwise from the top left there's the AverTV Volar digital TV tuner (p76), an Integral Multicard Reader, Adam's battered (sorry, well loved) Orange Smartphone M500, a Trendnet TEW 429UF (also reviewed on p76) and perhaps best of all, a laptop friendly Swiss Army Knife which is just as good for unscrewing a PC as it is for whittling wood.

Porcelain pleasure This month Sony finally released its rather desirable ceramic PSP in the UK. Naturally we've had one for months and can report that it's achingly stylish, but that the thumbstick turns a scummy off-white after a few weeks. Get one for **£166** from **www.foneplanet.com**

Boxing clever Of course with all these sleeky laptops it would be easy to forget the humble Shuttle, which can offer desktop performance in a machine that remains sympathetic to the annual car boot tessellation struggle. This particular SD36G5M model takes Intel socket 775 CPUs and PCIe 3D cards. **£301 at www.microdirect.co.uk**

A place in the sun

Never get lost on the road again with the Asus A636, a handheld that hides a fold out GPS antenna for finding that little gîte by the sea. It's also a perfectly competent PDA and scored a not inconsiderable 88% in PCF186. Available for £326 at www.scan.co.uk

Scrannies with the latest nuggets of portable technology.

The first essential kit we needed was, of course, computers. No thundering great game-eating tower systems for the megabus, though – the emphasis was on portability and just a little bit of style, in order to further impress all the cute hippies who cooed at our psychedellic ride. You can see which notebooks we settled on in our snaps, but anything portable with a wireless networking connection is ideal for a techno-roadtrip.

GET ONLINE

Next task – find the internet. It didn't take us long – in nearby Bristol, we stumbled across free web access from Cityspace, and promptly set up shop on the sunny docks. "It has become extremely popular," explained Cityspace CEO Marc Meyohas. "It's quite geeky

still. We set it up partly as a tech trial to see if wireless access on this kind of scale would work, but it's been publicised in magazines and newspapers and we have stickers in the windows of cafes and coffee shops. It's mainly been word of mouth, though. Once people start using it, they tend to use it a lot, then they tell their friends and that's how it spreads." With a sequence of 802.11b wireless nodes squirrelled away on top of lampposts and fixed net kiosks, each with a range of 300m, Cityspace's coverage is 3Km/sq of Bristol – and all free, though ad-supported. Currently, anyone can

the more detailed map on this month's DVD, to plan your UK wireless holiday in advance. You can also look up what's available in a specific area from www.myhotspots.co.uk. If you're going further afield, sites such as www.wifinder.com or www.wi-fihotspotlist.com have vast directories of hotspots worldwide.

CHARGE!

Secure in the knowledge that the internet would hover above our bus like a magic cloud o' fun wherever we parked it, next we went in search of a power source. Modern laptops and MP3 players may make bold claims about their battery life, but in

"Don't expect your Dell XPS to win you a few rounds of CS on sun power alone..."

connect to it via WiFi, and it'll then communicate to base via WiMax. "If eventually people have WiMax handheld devices it wouldn't be too difficult to upgrade the service," says Meyohas. It's not just Bristol, though – pretty much any urban area of the British isles you care to name is teeming with wireless hotspots, both free and paid-for. See our rough guide on p31, and

reality there'll be barely enough juice to last until the first pub lunch.

The only way to power our coterie of kit is a diesel generator – it's big, heavy and relatively costly to run, but fortunately our bus has space for it. If you're heading out on the road in a car, you'll have to be prepared to give over your entire bootspace to one of these puppies. Meantime, solar chargers for

Sun screen

We've had a lot of use out of this miniscule widescreen monitor here at PCF. While the image quality is certainly on the gritty side, the sheer size of the thing and its sub-£100 price means it's perfect for cramming in your holiday luggage. In the toasty confines of the bus, with all that baking technology and the sun beating down, we did notice that the plastic Digimate logo started to droop slightly as the glue melted. Perhaps not one to take on your trek across the Sahara, lest it turns into a translucent blue puddle... £94 from www.aria.co.uk

Print out

Powered by a lithium ion battery, the Canon Pixma iP90 is the epitome of portability. This laptop bubblejet printer means we were still able to work feverishly on your beloved magazine even when rattling along at an almighty 38mph. £139.48, www.oyyy.co.uk

Light fantastic

Easily the most calorie conscious of our three laptops, the Sony Vaio SZ1XP is a remarkably dainty Core Duo machine. The scales are balanced with a hefty pricetag, though. See how it stands up against the other two powerful portables on p145. £1,430, www.sonymstyle.co.uk

Cinema paradiso

Round off the perfect summer party with your very own drive-in

Wild Thing

Our film choice for a balmy summer's evening was John Carpenter's splatter horror classic *The Thing*. Picture quality is great and there's a certain majestic air to a three metre rendering of Kurt Russell's mullet.

Beer, barbie, bonhomie – on the rare occasions it isn't raining at the weekend, a sundowner is the best way to spend a summer evening, whether you're in Brisbane or Bolton. PCF readers, who know all about the merits of a high-def projector over a HDTV, can add one final treat to the party mix. As the night draws in, why not grab your laptop, projector, an

extension cable, and a large white sheet – the creases add to the old school charm – and turn your garden into a cinema.

For the flush, specialised screens start from around £140 for the InFocus Screenplay 2 (www.hifibitz.co.uk), which at two meters wide is perfect for hanging from a window, erecting in a field, or dangling down the side of an old bus.

Take it outside

gadgetry are coming along – we've been using the Solio (www.solio.com) to charge our bits on sun-kissed days for a good couple of years now. For other MP3 players and PDAs, or even laptops, portable panels from sites such as www.sunshinesolar.co.uk can just about muster enough juice, but don't expect your Dell XPS to win you a few rounds of CS on sun-power alone. However, that is the next stage of our plan – the owner of the

bus is planning on mounting a solar array to its roof. If you are investing in solar panels, you may need to pick up a voltage adaptor, as most portable models are designed for charging 12.6v car batteries.

Over the surrounding few pages, we've highlighted a few pieces of kit we think ideal for a road trip, but really, it's up to you – if you've devised a wondrous system of holiday technology, let us know at pcfmail@futurenet.co.uk.

Go fly a kite cam

Aerial photography for all



Here's a project for the dextrously gifted PCF reader who wants to add some really special shots to their Flickr account. The wind is up, the sky is clear of thunder and lightning discharge; what better way to get a dramatic picture of your home than to take it from up in the air? It's much simpler than you think to build your very own kite cam array, and potentially, quite cheap.



To build the camera array itself, we've taped a remote control servo (one with an egg shaped wheel is £25 from www.modelsport.co.uk) over the shutter release on an old Sony Cyber-shot U20 (£10 from eBay) and connected it to a battery pack. We've then added some very light foam padding from an old monitor box and a cut up a coat hanger to make the hook at the top.



Finally, we're using a Futaba four channel transmitter and receiver kit (£102, www.formbymodelshop.com) to control the servo. Set the electronics up so that one of the axel adjust controls can raise and lower the servo to activate the shutter release, make sure everything is bound nice and tightly and turned on, and then attach the camera to your kite and grit your teeth.

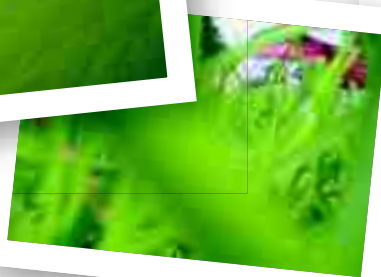


"We wanted a day in the sun and figured we could do it while still making the mag"

You'll need a fairly bright day, as quick shutter speeds at narrow apertures are vital for pin sharp photos from a camera dangling underneath a kite. Large sail kites are best for this – like Al's 10ft Flexifoil (£75 from www.kiteshop.co.uk). Use two lines to tie the camera securely and off you go.

And the photos look like this...

Are your shots better? Send them to pcfmail@futurenet.co.uk



While you're on the road you'll also need...

Power

Technology's no good without juice

You've spent the last few hours battling with that awning, unpacked all the technical gubbins that were carefully stowed away during transit and there you are sitting with a handful of power cables and no-where to go. Even the most advanced PCs become soul-destroyingly expensive paper-weights when you don't have the juice. On the road, however, there are no boundaries.

Energy Knight

To link your notebook up to the solar array or your chosen vehicle you'll need an in-car adapter. This version covers almost every model out there, with seven connectors including one for Dell's 3-pin socket. The next step up even has a USB port for charging suitable phones or cameras too. £38 at www.mdsbattery.co.uk



Solio Portable iPod Charger

Music is an integral part of any Summer, outdoors-type adventure and your iPod's battery suddenly copping out can put as much of a dampener on it as Cliff Richard. Solio's solar-powered charger then is perfect for such external jaunts, keeping the music alive for longer. £50 from www.ipodworld.co.uk



TPS 936 Briefcase Solar Generator

Should the thought of petrol fumes and the sound of a whirring engine not float your boat then this environmentally friendly solar set will be more up your street. It won't power a desktop PC, but with your laptop hooked up to it via a cigarette lighter adapter, it'll keep your battery happy. £100 at www.sunshinesolar.co.uk



2.6kVA Portable Petrol generator

The most reliable, though possibly not the greenest way of supplying your kit with power is a petrol generator. To make sure you've got ample juice for both monitor and PC you'll need one with at least 1000W of continuous power. You can hire this genny for a whole week for only £44. www.hss.com

Protection

Keep the bugs out of your kit

The biggest fear for anyone taking their kit out on the road is how safe it's going to be. After all, you don't want your notebook getting bounced around or your iPod Nano getting creased. Now you can either create your own duck-down lined lead casket for transit or you can get some of the latest armour for your precious bits of tech.

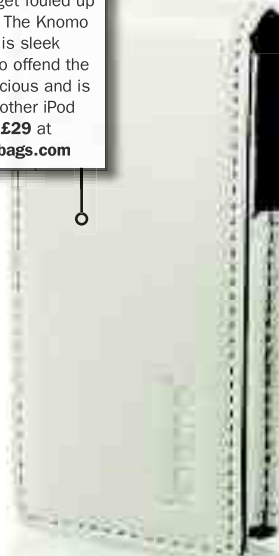
iPod Nano Case

The beautifully stylish Nano is lightweight enough to be taken practically anywhere, the only problem is that its super-shiny screen has a tendency to get fouled up fairly quickly. The Knomo leather case is sleek enough not to offend the fashion conscious and is available for other iPod chassis too. £29 at www.knomobags.com



NE-MS 15.4" Laptop Messenger

The last thing you want when you're out in the country is a bag that screams "I'm carrying £1,000 of notebook on my back, come take a look." So Belkin's catalogue of cases will keep your precious laptop safe from slight knocks, the elements and hopefully the opportunistic rogues as well. £30, www.belkin.com



Shuttle Bag PF60

Desktops aren't the most portable of computers, but Shuttle's small form factor cases have changed that. Still, you want to give your kit all the protection you can and this is where its carry bags come in, with its solid, molded base, large capacity and multitude of pockets. £35, www.shuttle.com



Pentax Optio WPI

Most cameras react pretty badly when dealing with somewhat aquatic nature of the British Summer time. Not so the Optio WPI which, should you so desire, can operate at underwater depths of up to one and a half metres for half an hour. Should be fine for the odd downpour then... £170, www.pentax.com





Turn on, tune in, download

Horses need no longer be held, chickens are hatched and can be counted – online TV and video is go go go. Alec Meer explains...

Aright, alright – perhaps PCFormat got a little overexcited. Like a hungry kitten with the whiff of the family dinner in his egocentric nostrils, we became obsessed, convinced that we should and would be able to help ourselves to it right now. But we didn't. Last June, we took a long, hard look at internet video and judged it to be worthy – a whole bunch of fantastically exciting stuff, in a holy duality of both on-demand downloads and high-quality streaming channels, was apparently right around the corner.

Except it wasn't. Or rather, it was, but it was walking really quite slowly. So, we're not yet choosing exactly which *Family Guy* episode we want to instantly play in hi-definition over our 24Mb broadband connection, but we are at least legally downloading near-DVD quality versions of *Harry Potter*, streaming splotchy episodes of *Star Trek* from Google or watching Pixar animation shorts on our iPods. In other words, we're getting there, and the second

half of 2006 promises something of an explosion of legal online video, both free and paid-for, together with a raft of juicy portable devices. Sure, you can load your iPod, PDA or PSP with laboriously re-encoded or Bittorrented videos of your choice and take it to the beach with you this Summer, but for your week in the sun come 2007, you'll be using a dedicated video device busting at the seams with high-quality, legal downloads of contemporary cinema and TV garnered in minutes.

What gets our local-hoop-unbundled goat, though, is how much cool stuff has already happened over the pond. Indeed, the land where anyone can grow up to be president (as long as they're white, straight, rich and male) has been supping on fine delights such as *Battlestar Galactica* on their iPods, or DVD-quality downloads of *Walk The Line*, *Jarhead*, and (in PCF's humble view a film of the year contender) *Good Night, and Good Luck* from the likes of www.cinemanow.com and www.movielinek.com.

Us limeys are so tightly bound in film distributor red tape and paranoia that we can't even access the proper Movielinek website, instead being presented with a page that, politely, tells us to get the hell off its front porch and bugger off back to our own country. CinemaNow will grudgingly open its doors to a refugee from the UK, but

will only let him feast on a bunch of unsatisfying free indie flicks that have been around for years. And don't even get us started on the sorry state of digital TV and HDTV over here...

BRIT TORRENT

Mercifully, the wind of modernity is gradually heading towards poor, backwards Blighty. There's Channel 4's streaming of *Lost* (see 'Get Lost'), and LoveFilm's plan to make



CinemaNow.com's UK (left) and US (right) front pages' compared. Can you spot the difference? Grumble.



Good Night, and
Good Luck – online in
the US, but not here.

Get Lost

Britons rejoice: C4 pioneers cheap TV online



Talk about a fast one. While iPod owners in the UK were busy grumbling about the lack of video downloads on these shores, Channel 4 quietly (well, not so quietly, if you're so foolish as to watch the advert-torture that is modern broadcast television) released complete series of *Lost* and *Desperate Housewives* onto its website, together with various music videos and online-specific shows. It's an annoying system, being streaming rather than downloadable video and stuck in low-bitrate 426x240 WMV which looks craptastic on anything bigger than a PDA screen (on which it would look great, and fortunately you can watch these videos on any handheld running PocketPC 2003 or later with the most recent version of Windows Media

Player). Initially, early episodes could be had for free, but this soon switched to a pay model. 99p buys you a single episode you can then watch for a measly 24 hours on a single PC – it's meant as a catch-up system for missed episodes, hence is very careful not to step on the toes of the lucrative DVD boxset market. There's advertising at the start, and another sting in the tale is that new episodes won't be available for PC-watching until a week after broadcast on Channel 4 – a long time to wait, during which the temptation to nip over to The Pirate Bay and download a missed instalment will grow ever-stronger. Still, enough moaning; it's a progressive move for online video in this country, even if it remains several very nervous steps behind the US. If you lived over the pond, you could block out the horror of what Dubya's doing by enjoying the free online re-watches of ABC & Disney shows, such as *Desperate Housewives*, *Lost* and *Alias*.



King Kong available to keep via download, rather than a mere short-term rental (something it already offers for a large range of movies). Double-incredibly, this happened simultaneously with the DVD release. The big monkey's not alone now, either – the likes of *Serenity*, *Land of the Dead*, *Nanny McPhee* and classics such as the *Big*

Arts Alliance Media, thinks otherwise. "[Universal's] research and our research indicated people were interested in a download-to-own model where they also got the DVD. It's a reasonable compromise – as technologists we're looking for people to transition. This way they can experience the download whilst still getting something physical." Fair

"The future is a subscription that lets you get as much as you want, as often as you want"

Lebowski are also available for purchase. AOL is providing its own storefront for the service as well, so it has the potential to be huge. What's the catch? Well, they're the same price as a DVD – more expensive, in fact, for anyone who buys DVDs online for prices far cheaper than on the high street. But your £17 to £20 nabs you a 720x576 WMV copy of the movie, a 320x240 one for your portable device (as long as it supports WMV9 DRM) and a copy of the standard DVD. An odd decision perhaps, but LoveFilm's Rob Ray, Chief Technical Officer of parent firm

point, though to our minds a £20-odd price tag isn't the best way to tempt people. The purchase-to-own scheme had only been running for a week when we spoke to Ray, so unfortunately we weren't able to get any figures on how popular it had been – as the first of its kind (involving a triple-A movie, at least) in this country, its success or otherwise could have a massive impact on what happens with legal video downloads. To try it yourself, see www.lovefilm.com.

But who's actually buying this stuff? With HDTVs still fairly much

£20 gets you the
King Kong DVD plus
two WMV versions.



Morgan Freeman has committed to online film distribution.

■ on the back foot over here, surely most folk wanting to watch a downloaded movie are either doing it on their monitor or with an ungainly S-video cable run betwixt PC and CRT TV... "It's aimed at anybody and everybody," says Ray. "Clearly the market does have a direction though, with Microsoft through Media Center and Intel with Viiv. We hope it gets played in the living room and the dining room, not the bedroom or the study." Hang on – Intel Viiv? But isn't that just, basically, a logo crudely slapped onto Media Center-friendly kit? "When you download content to a Viiv device, it goes into the Viiv registry, which makes that content available to any other Viiv device in your network. The Media Center becomes a hub in your home environment that can stream video to any room in the house." That was

Freeman earlier this year. "With *10 Items or Less* and ClickStar's service, we can now offer film fans a choice – watch it in the theatre or anytime they want in the comfort of their home."

Perhaps aware that a broadband user either uses their super-fast connection to either only check email and buy DVDs off eBay or taxes the local exchange to breaking point with an endless stream of Bittorrented video rips, more and more UK ISPs are muttering about introducing their own online video on demand services. Sign up for digital cable TV with the newly merged Telewest and NTL and you'll have access to Teleport, an on-demand archive of what's been shown over the last

"Rumour has it there's a new iPod on the horizon with a 16:9 aspect ratio touchscreen"

certainly the original Viiv promise, but one we've yet to really see in action. "The Intel brand will guide customers – we'll see a much greater push on this later in the year." The key is DMA (Digital Media Access) devices – essentially wireless set-top boxes to which a Viiv device can stream a movie, complete with its DRM, meaning you're no longer only able to watch it on the machine it was originally purchased on. "I expect to have four in my home," predicts a clearly affluent Ray. Viiv 1.5 is due later this year, a software update for confused early adopters that will finally add some of this functionality to their garishly stickered new PCs.

SWITCHING ON

Of course, to make all that worthwhile, we need videos to watch. Morgan 'professional wise, kindly uncle' Freeman last year partnered with Intel to form Clickstar, a firm dedicated to providing premium video downloads to Viiv devices. One of the first offerings will be *10 Items or Less*, a comedy starring Freeman himself as the enigmatically-named Him, due out in the second half of this year – with a promise that it'll be available for download within a fortnight of its cinematic release. "ClickStar with Viiv technology offers a huge opportunity for filmmakers to reach audiences worldwide," hard-sold

week, as well as pay-per-view movies that aren't bound to a schedule. Sure, it's all done through a set-top box and thus doesn't cast so much as a sideways glance at your PC, but it's still delivering near-instant television shows of your choice to your telly over a wide area network connection. BT is shortly to offer something similar to its broadband customers, in the form of BT Vision. "We're not about channels because we're not broadcast. We're specifically a video on demand service," explains Lib Charlesworth, director of sales and marketing for BT Vision. "You get a set-top box from us, which you plug into your Freeview aerial and into your BT broadband connection. The EPG [electronic programme guide] will be seamless between linear channels and on-demand content. We're all about a very simple intuitive service." Unlike Telewest Teleport or Sky By Broadband, which both offer content primarily only from the last seven days of broadcast shows, BT Vision's programming isn't bound in any way to what's been on TV recently.

Instead, it's partnered with a whole bunch of distributors and networks to offer back catalogues of existing shows and movies. Not all names could yet be named, but major players like Paramount and Warner Music are confirmed as on board. Lib Charlesworth is confident

there'll be plenty of choice: "at launch we're going to have selections of films – both current and classic – then we'll have more general TV, a childrens' genre and a music area. Music will not only be fairly obvious videos on demand, there'll also be concerts old and new, behind the scenes documentaries..." BT Vision will only be available to BT broadband subscribers, and won't be free – it's designed as a companion to broadcast television rather than a replacement. "The point about our service is giving customer choice about how they choose to pay," says Lib Charlesworth. "They could literally do pay as you go for all content. There's no mandatory subscription, though subscriptions will be offered. no tie-on. The film

service will only be offered on a pay per view basis." The bright new future of internet video, as far as PCFormat is concerned, is paying a monthly subscription fee that allows you to download as much as you want, as often as you want to watch it, whenever you want – though BT Vision doesn't allow unlimited plays, and of course you're bound to a specific ISP, its model is certainly a step in the right direction. BT Vision is due for launch around August – register your interest at www.btvision.bt.com. Though the home video on demand juggernaut is gradually gathering stream, it's the portable video market that's really taking off. With 8,526,000 iPods sold in the last financial quarter alone, there's a staggering video-ready market that can be reached

DRM to go

Is copy protection really infallible?

You don't own that DVD you just dropped fifteen large ones on – all you've done is purchase a licence to watch it. It's very important to the movie industry that this skewed mindset is maintained in the on-demand, pure-digital age that's right around the corner, hence Digital Rights Management is cropping up all over the place like post-chocolate binge acne. In most cases, it's there to stop the video it's attached to being played on another PC from the one it was purchased on, which is a source of great annoyance for the great many people who have multiple devices in their homes, or simply want to watch a rented/purchased video in something other than Windows Media Player or iTunes. You'll forgive PCF if we don't go into too much detail here, but research reveals it's actually very simple to strip the DRM from a WMV 9 file (currently the most prevalent video download format). Essentially, you can capture the licence key from the

original file, use it to identify the encryption code and then save out a second copy of the video with that layer of data stripped out. It takes a handful of minutes. Currently, it takes a fair bit of scouring the internet's hives of scum and villainy to find the software you need to do this, but it'll become easier as time goes by. Which means, essentially, that this method of DRM is living on borrowed time – should the crack go public, it could mean major delays to the rise of legal video.



A disappointing turnout for the annual Imperial conga party.



Picture © Kobal Collection

every time they load up iTunes. This also means there's quite a war brewing, as the worryingly established WMV9/10 video codec (complete with its amusingly easy to crack DRM, as, ahem, a friend of ours discovered recently), goes head-to-head with the rumoured film services Apple has up its industry-admired sleeve. Over here, there's no competition – there's only music videos and animation shorts available over iTunes in Europe, and nothing for desktop machines. In the States, however, a huge deal with Disney, ABC and NBC means the likes of *Desperate Housewives*, *Scrubs* and *Lost* are up for grabs the day after they've aired on American

milk did for cereal. If Apple gossip sites such as Thinksecret are to be believed, we'd have had this true video iPod by now, if not for technical problems with the touch-sensitive interface, which purportedly overlays an enlarged screen that spans the device's entire front with on-screen rather than physical buttons. But it or something like it is unquestionably coming from Apple, and though Microsoft already has Universal, Time Warner and Morgan Freeman in its pocket (or rather, on its pocket-sized video players), there's still the likes of 20th Century Fox, Paramount, New Line and Sony MGM up for grabs. Whichever device

“There's a war brewing between pride of DVD ownership and the convenience of online video”

telly. And in March, Apple quietly snuck its first full-length movie onto iTunes US, Disney's untrumpeted *High School Musical*.

PORTABLE PROMISE

The current iPod's fiendishly short battery life during video playback means that, for now, full-length movies, be they craptastic kiddie comedies or otherwise, aren't really a viable option. Rumours swirl, however, that there's a new iPod on the horizon, a 16:9 aspect ratio, totally touchscreen beauty that's going to do for portable video what

line (ie. either the iPod or Microsoft Plays For Sure-enabled portable media players such as the Creative Zen Vision:M) gets *The Lord of The Rings* or *Star Wars* first is going to party like it's 1997 [*The year DVDs first went on sale in the US - History Ed*] “The technology has been available for a while,” says LoveFilm's Rob Ray of the *King Kong* deal. “It took a while for everyone to come to the table, but it was pretty straightforward in the end. Things were already happening before Apple – it just managed to get there first. But the lessons are there from

Public access

Free, home-made video is taking over the internet

Either they're dead, everyone else in the world is dead, or they're in some bizarre experiment. There, you don't need to watch *Lost* anymore. Instead, take a look at some of our favourite online video made by real people for real people...



YouTube

www.youtube.com

As long as it doesn't violate international laws of good taste and decency, you can post pretty much any video clip you like to YouTube for free. Hence, alongside all the funny home videos and home-made animation shorts, a lot of snippets from copyrighted shows like *Family Guy* tend to turn up.



Rocketboom

www.rocketboom.com/vlog

Alluring but smug-voiced NYC host Amanda Congdon may veer dangerously close to grating for UK audiences, but there's no denying that her pioneering vlog is sharp and witty. Rising from 700 to 200,000+ viewers in a matter of months, it's the best example of an online video success story yet.



Kevin Sites in the Hot Zone

hotzone.yahoo.com

No inane gadget-talk, no banal student humour, instead very real, very human and very compelling news correspondence direct from the world's most dangerous and war ravaged places. If the Pulitzer prize ever evolves to include online-only reporting, solo journalist Sites would be a sure fire bet.



Diggation

www.revision3.com/diggation

Nerd nirvana – two blokes report on all things gadgety, gamey and web meme-y. All their stories are based around those rated most highly on the social bookmarking site digg.com, so they're pretty much guaranteed to always cover the most interesting stuff clogging up the net.



Hak5

www.hak5.org

A vlog for the moderately hardcore tech enthusiast, offering everything from cool hacks like remote-controlling Media Center with a mobile phone or building an iPod laser transmitter to reviews of the latest and greatest apps and gadgets, and a healthy dose of geeky gaggery.

music downloads – you don't want to wait for it to happen or you'll lose it.” Consumer desire is very much towards video they can own – witness the rise and rise of DVD boxsets, and how more and more TV serials, from 24 to *Doctor Who* (itself increasingly bolstered by online video clips and documentaries from the ever-experimental BBC), are made with massive profits to be earned from this method in mind. By contrast, waiting a couple of hours for a movie to download that you can then only watch for a week

afterwards is less appealing – until, in just a few years, we're all sitting pretty with 24Mb ADSL or cable connections that deliver a movie in minutes. There's a war brewing between pride of ownership (lavish DVD packaging, the mutual pleasure of lending your library to friends) and convenience (online video that's cheaper than discs and doesn't take up space or require a trip to the shop). Increasing broadband speeds means television will move to the web – but watching the scuffles leading up to it promises to be a whole lot of fun. **PCF**



Putting the World Cup online

Watching England's heroic march to glory on the gogglebox is so last century. **Jonathan Webster** examines the online approach to footie fandom

The World Cup is a universal sporting event that galvanises global population like few others. Indeed, it's extremely hard not to think of a country whose citizens (at least those with a passing interest in football) won't be glued to their TVs sets – or, in the poorer parts of the globe, their wind-up radios.

Today, however, people in the more prosperous parts of our planet increasingly rely on receiving some or all of their information – especially sports and entertainment news – via their PCs. Luminaries at of some of the world's most powerful football and broadcasting organisations gave *PCFormat* the inside track on what they have up their online sleeves.

FIFA FO FUM

Simply put, if it was not for FIFA (The Federation Internationale de Football Association) there would be no World Cup. This is the world's most powerful football organisation that has organised each and every

World Cup since the championship began back in 1904.

FIFA's Director of New Media is the suave and prodigiously efficient Charles-Henry Condamine. From the excited tone of his voice, he is clearly sitting atop something very special this year. "During this

team of three people per language; A writer, researcher and translator. Therefore, for every single game of the 2006 World Cup, there will be continuous live feeds, real-time commentaries and analysis to keep football fans from some 207 nations' thirst for unending football

"The FIFA online team will be generating a cool 1,300,000 words during the tournament"

Summer's World Cup, our New Media department's team of 12 will be transferring to a huge custom-built media centre in Berlin, where we will be augmented by another 44 designers, engineers and operatives. That, of course, makes a team of 56 people who will be helping us to broadcast our online feeds and huge waves of information in no less than nine languages simultaneously.

It seems, according to Condamine, that there will be a

content throughout the tournament well and truly slaked.

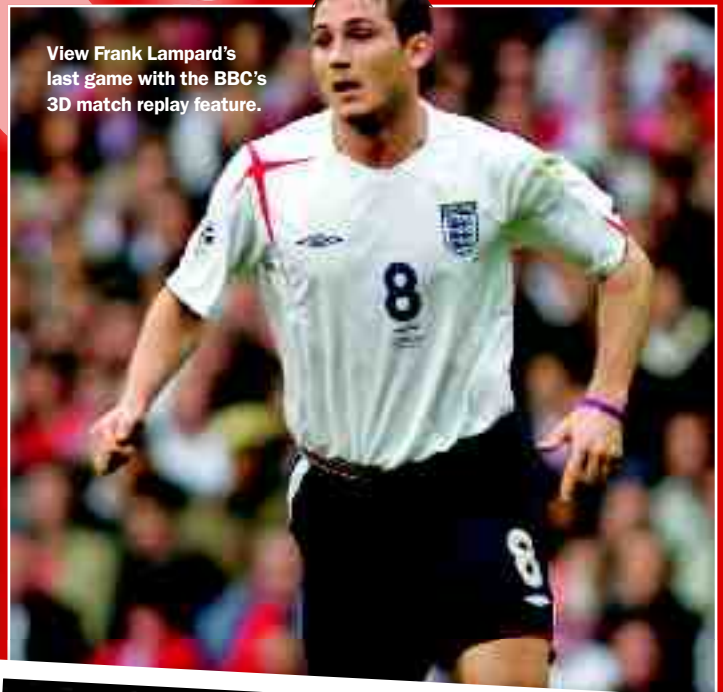
There are actually two official FIFA websites: www.fifa.com and www.fifaworldcup.com. Condamine says: "The former has actually been in existence since 1995, long before my time. However, I was very much present and involved in the creation of www.fifaworldcup.com back in 2001, in conjunction with our corporate partners, Yahoo!

"Yahoo!'s personnel actually designed the site", he continues,

Does David watch videos of his free-kicks on YouTube? We would.



Picture © Rex Features



View Frank Lampard's last game with the BBC's 3D match replay feature.

Picture © Martin Rickett/PA/Empics



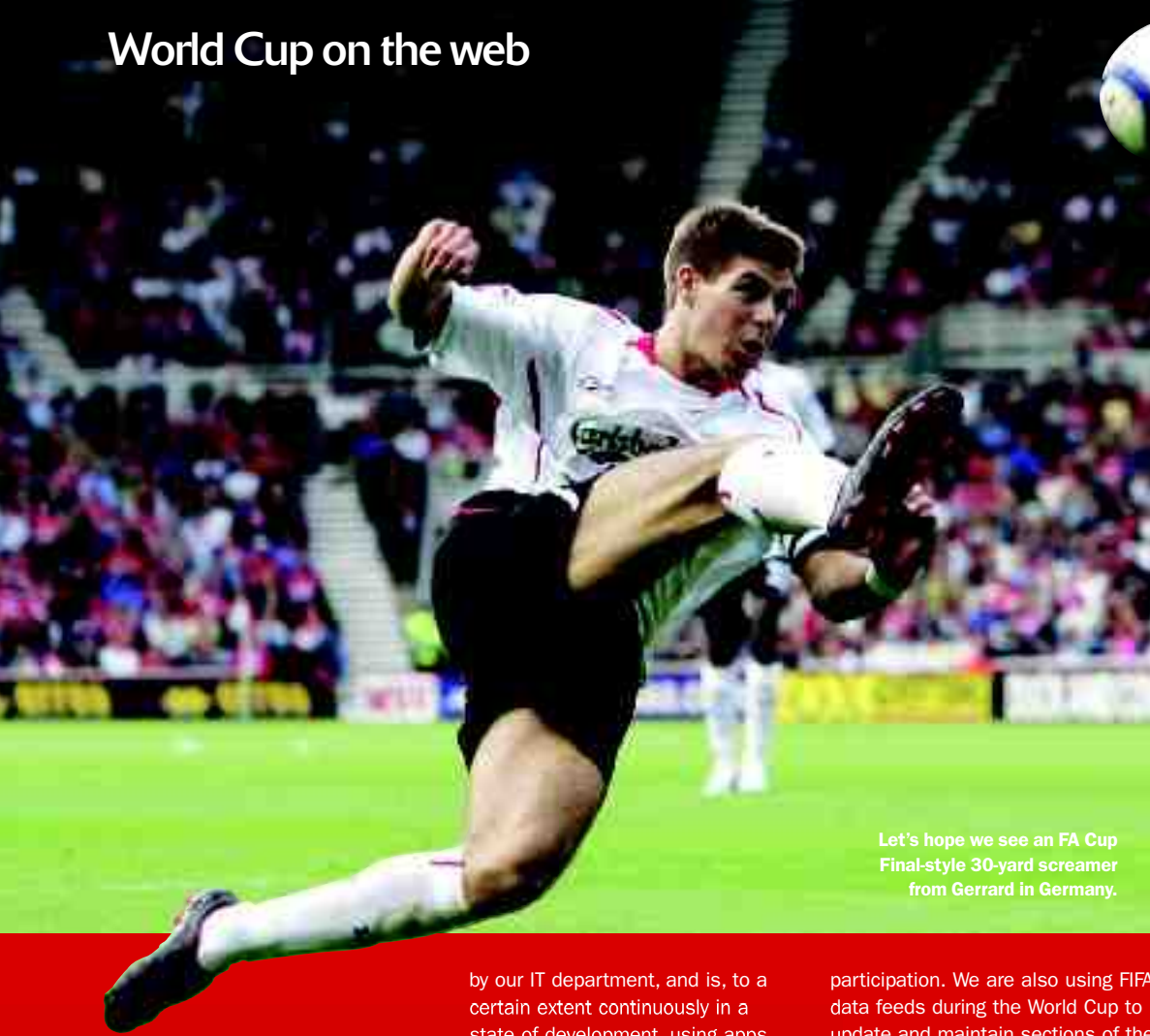
You'll be able to scrutinise Sven's tactics from the comfort of your desktop thanks to the plethora of World Cup portals launching in time for the tournament.

"while my team manages and provides the content. It's important to mention that whether it's information or visuals provided by either fifa.com or fifaworldcup.com, we can't just be Euro-centric. We pride ourselves on being a truly international football organisation. Therefore, apart from the team for Germany 2006, our existing, full-time online FIFA editorial network comprises some 40 journalists from around the world, from London to Rio and Beijing to South Africa."

Indeed, it sounds as if there will be something for everybody during this World Cup. One of the estimates is that, conservatively, the FIFA online team will create a cool 1,300,000 words during coverage of the World Cup. According to

Condamine, "there were two billion page views during the 2002 World Cup. I am sure with the increased adoption of computers and online services that, even in the less privileged parts of our world, that figure will be exceeded this year."

When it comes to the internet, content is, of course, everything. And www.fifaworldcup.com won't disappoint. Condamine reveals that "all the significant areas of interest for World Cup fans are covered, including sections about the structure of the tournament, 'Destination Germany' for visiting fans, a games and quizzes section, a 'classic moments of the World Cup' area, and information on getting World Cup updates straight to your mobile phone." PCF asks



Let's hope we see an FA Cup Final-style 30-yard screamer from Gerrard in Germany.

Condamine about the design principles behind FIFA's online presence at this year's World Cup. "The over-arching principle is that our design is geared to supporting the content of our site, not the other way round", he says. "We have also designed it with supreme ease of use in mind. Low bandwidth users will feel as involved as those with the most powerful PC systems and fastest broadband connections. Our ethos is that nobody should feel excluded. And, indeed, everyone is welcome."

THE FA

Deep within the bowels of the Football Association's HQ in London's Soho Square, Webmaster Dan Freedman and his team have been beavering away for many months, revamping the site in preparation for this summer's World Cup. England's Football Association (the FA) was one of the sport's early adopters of online technology, and the FA's website has existed in some form since 1999.

Freedman continues: "When we unveiled our very first site back in 1999, it was simple and static. It's gone through several incarnations to the one we have now, which was designed by an external agency called Elmwood Design. But the actual site was developed internally

by our IT department, and is, to a certain extent continuously in a state of development, using apps like *Microsoft Content Management Server 2002*."

Like their counterparts at FIFA, the online team at the FA will be augmented and turned into a 24/7

participation. We are also using FIFA data feeds during the World Cup to update and maintain sections of the World Cup area on **TheFA.com**."

Which brings us to the exciting bit. What juicy features can PCFormat's footie fans actually find at **TheFA.com** to help sate their

"The aim of the BBC Sports blogs is amusement, rather than just po faced analysis"

operation during the four weeks of the World Cup. Freedman continues: "As you can imagine, at this critical period during the build-up to the World Cup we are in constant liason with FIFA on all aspects of England's

World Cup appetites? Freedman says, with evident pride: "We have a significant area of our site devoted purely to the World Cup, with historical data, a vast number of special features and strong

geographical backdrop; which is necessary when you have 100s of millions of football fans in over 200 countries – many, hopefully, wanting to find out about England. We will also be bringing fans exclusive video from inside the English team's hotel during the tournament; plus giving fans the chance to talk to players and coaches directly through webchats."

And the icing on **TheFA.com** World Cup cake? Well, apparently, if everything goes according to plan, Sven himself will be available at certain selected times for comment. Head to tinyurl.com/g849h to access the Swede's latest musings.

THE BBC

Where would we be without the BBC – arguably the finest and most far-reaching broadcasting organisation in the world? And, of course, as far as TV coverage of the World Cup is concerned, the Beeb has had all UK broadcasting rights of the event sewn up since the year dot.

This year it's no different. However, what has changed is that the amount of online resources being put into its World Cup coverage by the UK's favourite public-funded corporation has increased exponentially. Ben Gallop (Editor of BBC Sport Interactive) puts it into sobering perspective: "At BBC Sports Interactive we have a whopping 100-strong team, and many of those will be working on our online World Cup content. In fact, during the tournament we will become, as you might expect, a 24-hour online operation."

As far as the corporation's online coverage of this year's tournament is concerned, Gallop has considerable professional pedigree. "I joined the BBC back in

Online games with Auntie

Highlights of the BBC's World Cup coverage



GOALFINGER The BBC's natty titled game has to be one of the best surrounding this year's FIFA World Cup. Simply put, it is a game where the fan picks a team (any one of the teams in the World Cup) and then plays the tournament online as that team. The top prize is match tickets for every round of the FA Cup next season including the Final.

WORLD CUP DAQ

Invites you to buy and sell shares in any of the 32 teams that entered the 2006 World Cup. You will be given a pot of money, and it's up to you to spend it as you see fit. It is a test of investing prowess and your judgement of footie

form. The Prize consists of tickets to England's first International at Wembley. Buy Brazil, we say...

FIVE LIVE

There those who like to get their Radio signals online, can tune into Five Live over the net and receive several broadcast goodies including: A World Cup Beginner's Blog, consisting of a blog authored by a complete newcomer to the World Cup. Fans from around the world, as well as staff working on the ground in Germany, will be contributing to the site. Then there's the Daily World Cup Download, courtesy of Simon Mayo, who will be presenting repurposed content.

1998, which, as it so happens coincided with the very first World Cup that we covered online. Back then it was largely text-based, with some fun if fairly gauche graphics. Our online coverage of the 2002 World Cup was a big step forward, but even then it was pretty two-dimensional, in that we were still heavily reliant on getting our information out in words and

"The FA website will be turned into a 24/7 operation during the four weeks of the World Cup"

pictures. But this year, while traditional running text commentaries and visuals will, of course, still play an important role in our online offering, interactivity is the key. Our aim this year is to make what we offer online a truly interactive experience."

Okay, many broadcasters and sporting organisations like to boast about interactivity, but often the results are disappointing. What's so different about the Beeb? Well it would seem

judging by this little lot, plenty. "We pride ourselves on being at the cutting edge at BBC Sports, and, being the world's most significant sporting events, both the World Cup and the Olympic Games frame what we do in terms of technology and sports presentation."

"First up," Gallop continues with a flourish, "is Virtual Replay; something we unveiled for Euro

2004, and have refined since. Essentially, it's a Shockwave application that replicates the on-pitch game in computer graphics. For a football fan following a game online with us, if they select Virtual Replay it's like they are suddenly playing on a games console. The upshot of this is that they can watch a World Cup game from the player's perspective."

Having had countless years covering the World Cup, the BBC has so much historical content related to

the championship that this year Ben and his team decided they had to provide something more interesting than endless menus for site visitors to navigate with. "So we have been working with a company called Map Solut", says Ben, "to offer what we call The World Cup Map."

User-generated player ratings is another BBC Sports Online feature which, PCF imagines, will be extremely popular once the tournament is in full swing. Gallop explains it thus: "The day after a match, the papers give players a mark out of ten for performance. But we want to let the fans do that. Therefore, our viewers will get a say with us in the way that they do with, for example, Amazon; where they post their views online on a book, a CD, and so on."

One of the most exciting online developments of the last couple of years has been the rise of blogging. Unsurprisingly, BBC Sports is keen to creatively exploit this trend during World Cup. The aim of these blogs is amusement rather than po-faced analysis, Gallop explains: "We are sending a couple of our journalists to Germany in a camper van to experience the World Cup as the fans do, and then they'll write a blog and interact with users of the site. We are hoping the fans will send them on tasks which hopefully will be fun and not too scurrilous!" PCF

David consoled Wayne, who returned from Germany to find his inbox full of health insurance spam.

THE TOP FIVE WORLD CUP WEBSITES

Reasons why settling in front of your PC beats watching TV...



The Football Association
Exclusive video from inside England training camp, plus online arcade games. If your main concern is England, this is the place to be.
www.thefa.com/WorldCup2006



BBC World Cup
RSS news feed, up to date features and videos, plus World Cup Daq a football themed virtual stock exchange game.
www.bbc.co.uk/worldcup



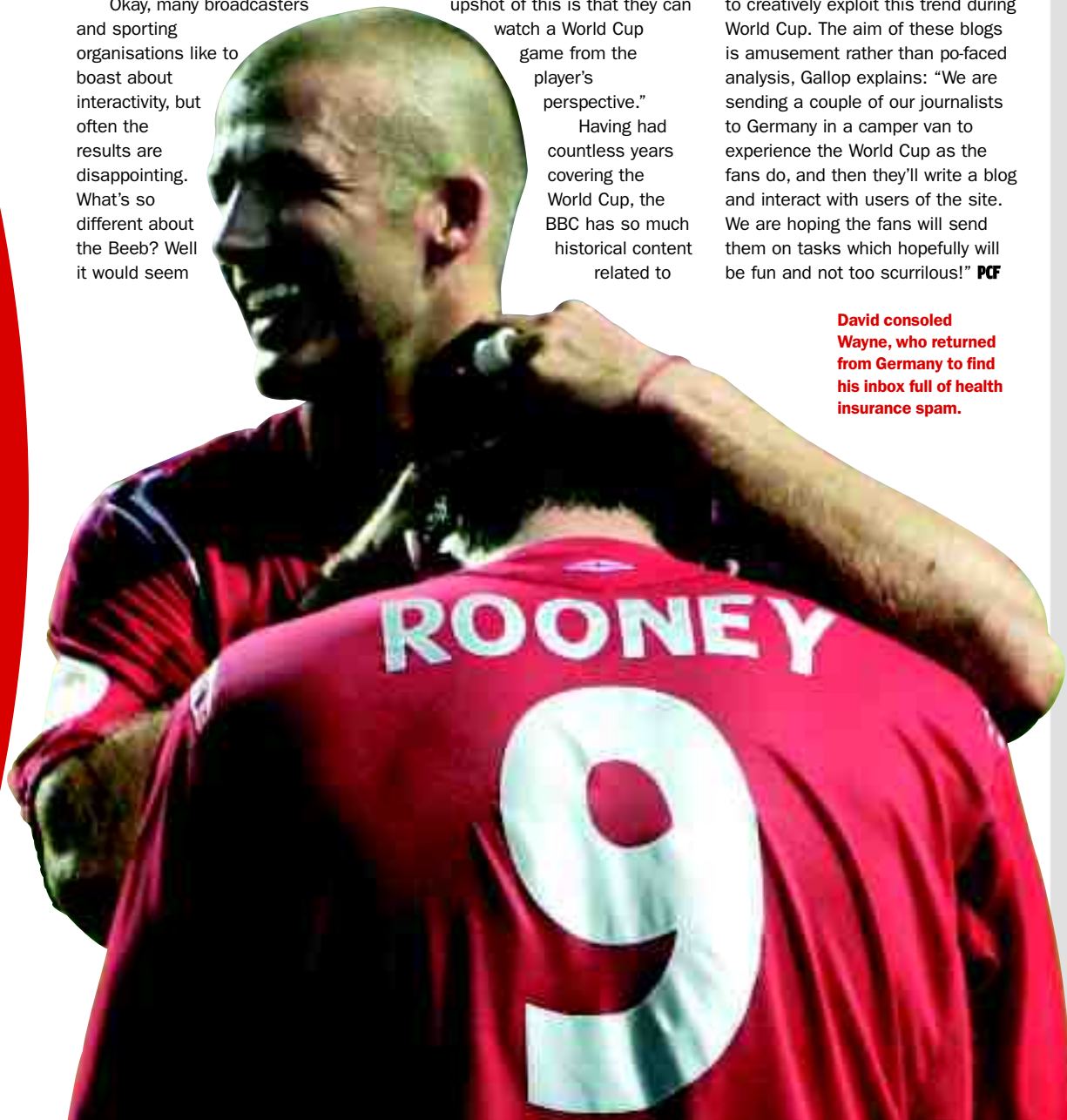
NTLWorld
Live countdown, top 50 videos of World Cup goals plus details of the next live fixture.
www.ntlworld.com/microsites/sport/worldcup



Official World Cup Site
Stacked with content from photos and videos, to blogs, to games, the FIFA official site is a masterclass in producing an official event website.
www.fifaworldcup.com



Sky Sports World Cup
No videos, but the only other site with RSS feeds and the fantastic World Cup of Beer.
home.skysports.com/worldcup



reviews

All the latest games, gear and apps



Hitman: Blood Money

Our scoring system

0-19% Unusable or astoundingly rubbish

20-49% Largely not worth spending money on

50-69% Some decent features but uninspiring

70-79% Accomplished without the must-have factor

80-89% Outstanding. Awarded Top Gear or High Score

90+ Exceptional. A PCFormat Gold Award winner

Our key promises

1. PCF has the most thorough reviews

We've been reviewing kit and games for 14 years. With over 8,500 reviews written, we have the most talented, dedicated and authoritative teams in the business.

2. Integrity is paramount

We never trade pages for exclusives, or review games not signed off as finished by the publisher. Where we've looked at reference hardware, we'll make that clear in the review.

3. The PCFormat Gold Award

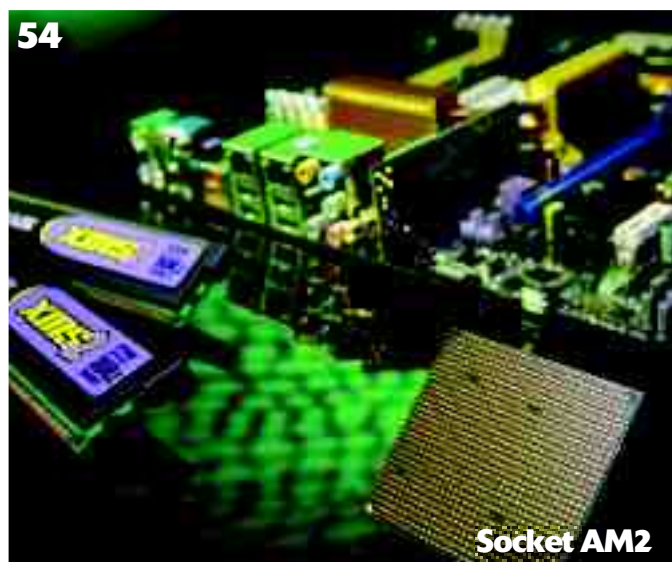
Only when a piece of equipment or game exceeds our expectations in terms of innovation, excellence and value for money does it get one of these coveted honours.

4. High Score/Top Gear

It's a misconception that only 90%+ is an essential purchase. Anything scoring 80% or higher is festooned with one of these, making it one of the month's most highly recommended.

5. We want to know what you think

We are PC fans writing for PC fans, so please share your thoughts on new stuff in our forum: <http://forum.pcformat.co.uk>



Socket AM2

PCFormat Experts



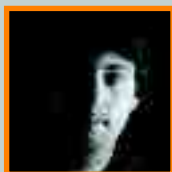
JEREMY LAIRD
Waxed lyrical about *Oblivion*'s visual majesty in his guide to the perfect graphics setup this month (p108).

MOST WANTED
A pun-free Wii article



NEIL MOHR
Our Neil got terribly excited about the potential of Socket AM2, over on page 58. He can't wait to see Conroe, either.

MOST WANTED
Faster processors



RICH COBBETT
Richard got so good with macro app Ghost Control (p112) that he wrote the whole workshop just by pressing [Alt]+[T].

MOST WANTED
More web space



DAVE JAMES
Law-enforcing DJ spent the month crawling in sewers, muttering about 'perps'. The reason's hiding out on p87.

MOST WANTED
More evidence



ALEC MEER
Five years of silent, noble toil in PC journalism finally paid off, as Alec was allowed to review *SiN Episodes: Emergence*.

MOST WANTED
Badly rendered boobs



MIKE CHANNELL
Channers is still faintly nauseated by his run-in with the three-monitor setup (p65), but it made *GTR2* great fun.

MOST WANTED
Antacids

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Turn to page 131 and never miss an issue of PCFormat again!



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SiN Episodes



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VoIP routers



66

Asus PhysX P1



68

Rock Xtreme SL

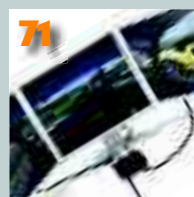
THIS MONTH



67

>> SAMSUNG Q1 Origami has arrived

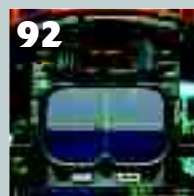
The first of the ultra-mobile PCs has arrived, and with its shiny black shell, it's certainly a covetable little beastie. Packing a Centrino chip, this not only runs a full version of Windows XP Tablet Edition, but also, with a little gentle persuasion, *Half-Life 2*. Turn to our review to find out how we wringed every last bit of oomph from this tiny device.



71

>> TRIPLEHEAD2GO It's the magic number

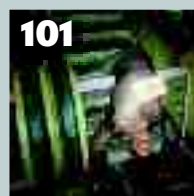
Split your display not twice but thrice with this clever black box from Matrox. All that's required is a single VGA port (oh, and three monitors) and you'll be well on your way to a desktop the size of a footy pitch. If you already have a collection of screens that have been 'retired' in favour of increasingly flashy LCDs, this an opportunity to splash yet more cash.



92

>> DANGEROUS WATERS Fire aft!

Frankly, the prospect of spending months inside a distended dustbin hundreds of feet beneath the icy Baltic holds no great appeal for us, but it clearly floats (or should we say sinks) some people's boats. *Dangerous Waters* brings all the thrills, spills and claustrophobia of life deep beneath the ocean wave with none of the hackneyed jokes about seamen. Still, we'd rather it was a *Stingray* game.



101

>> CONDEMNED Psycho killer...

Condemned: Criminal Origins (not to be confused with *Criminal Mentes*, a tale of badass citrus fruit from the wrong side of the tracks) is a dark, cinematic thriller which sees you on the hunt for a serial killer. Rather predictably things get mightily strange, but not so strange that they can't be dealt with using the old snap-your-shotgun-butt-on-the-bad-guy's-noodle-technique.

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SOCKET 2 THEM

AMD Athlon 64 FX62 Socket AM2

It could be a case of the Emperor's new clothes but the AM2 socket for Athlon 64 isn't just about a change of underwear, it's about DDR2

Price £725 Manufacturer AMD Web www.amd.com

Photos: Dave Caudery

You have to admire the size of AMD's kahunas. When it launched the original Athlon 64, it took flak for not supporting DDR2 in its new, integrated memory controller. Traditionally – and on modern Pentium chipsets – motherboards used an extra chip, known as the Northbridge, to manage traffic between the CPU and the memory, the whole governed by the speed of the Front Side Bus. AMD stuck this interface on the CPU die and replaced the FSB with its proprietary Hypertransport interface; one less bridge chip means lower latencies across the board, with the downside that there's less flexibility in the design to use new technologies, like DDR2.

As history has proved, sticking with DDR1-400 hasn't hurt AMD's performance in the slightest; particularly when it comes to games. Athlon 64s have pounded Pentium 4s into the ground for some years now, partly due to the more efficient processor design, but also because DDR2 memory simply hasn't delivered on its promises of greater speed thanks to a trade off with

higher latencies. Or that was the case until now. With new 800MHz and 1066MHz modules appearing, the price: performance ratio is starting to shift in favour of DDR2 – largely thanks to investments made by Intel. And for this, AMD shows its thanks by beating its rival to a DDR2-800 capable platform.

The problem is that to introduce a whole new memory technology, AMD has to overhaul its entire processor line with a fresh integrated memory controller – and naturally PCF was the first to receive a sample of these new chips, the top of the range dual core FX62.

Each time AMD has fiddled with the memory controller it has updated the socket to make sure confused consumers don't go and try to force a poor defenceless processor into a socket it's not suppose to mate with. The move from single channel controllers dual saw the pin counts rise from 745 to 939, and for the new socket – dubbed AM2 – AMD has added one extra pin (purely to differentiate them, we believe).

AM2 is more than just about DDR2 but by far this is the key reason for anyone jumping onboard. The beauty of not being tied to an FSB, for example, means that AMD chips should run the newer 1,066MHz specced DDR2 memory at full speed regardless of the motherboard – unlike Intel chips which are limited to a top speed by their FSB.

At launch AMD will have a complete range of AM2 compatible processors and thanks to HyperTransport, all the existing chipsets are automatically compatible: they just have to be integrated to a DDR2 ready motherboard, another advantage of the integrated memory controller. But how does the new range perform?

CHIPS ON FIRE

It could have stayed with DDR1, of course, but AMD's biggest problem right now is Intel's Core Duo revision, Conroe (see PCF187 and the Core Blimey boxout), due very soon. While it still has the chance, AMD is going to make sure it clings onto the performance crown with the release of the mighty FX62. At

HOW WE TESTED

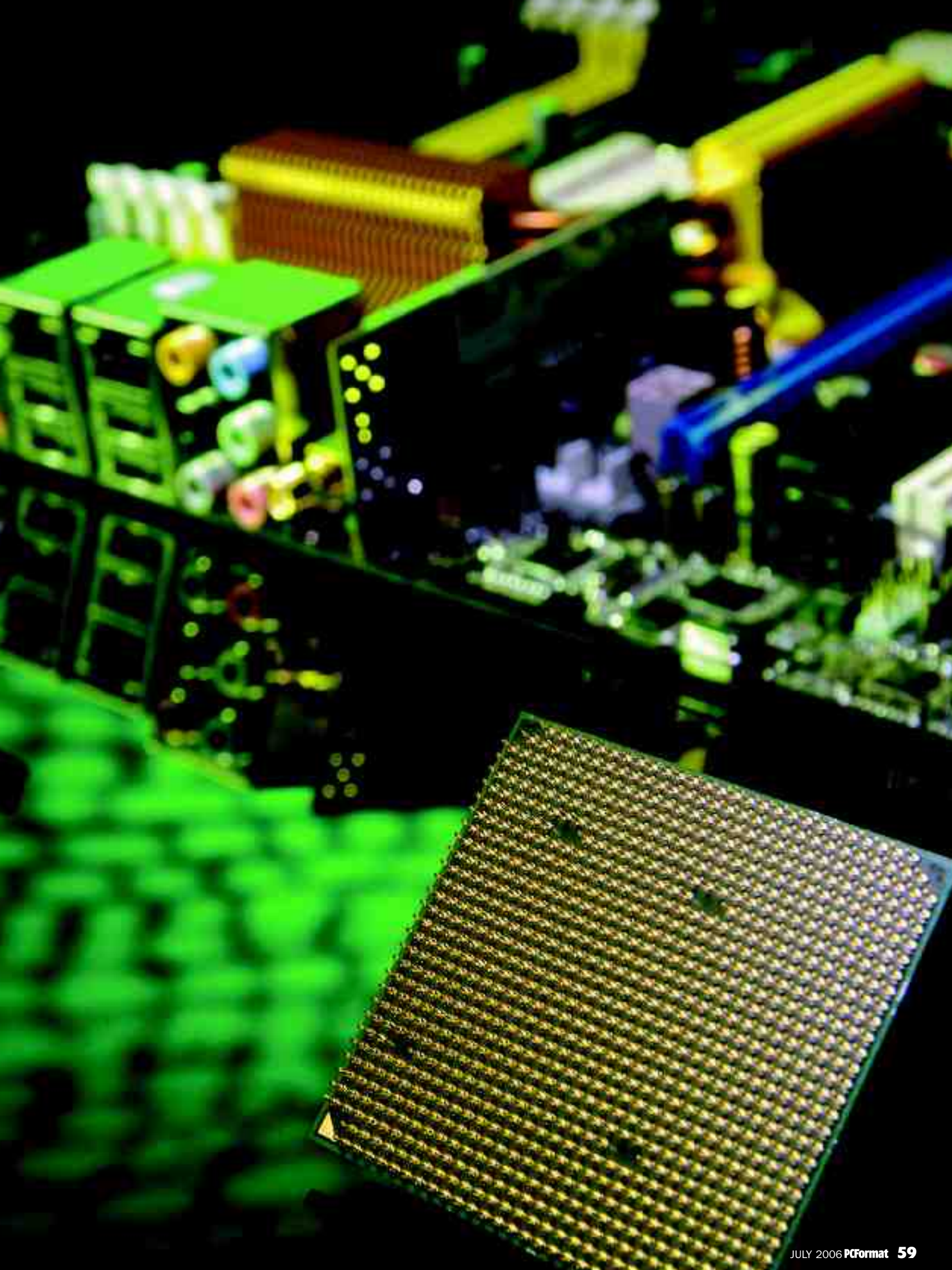
Getting the best out of the best

Our FX62 was put through the paces on Asus' highest end AM2 board, the M2N32SLI-Deluxe. We should point out that although this is an NFORCE 5 board, it doesn't support the new EPP timings for the memory modules covered in this month's news (p16). Also, after we went to press, a BIOS update for the board was released that may improve performance slightly. The 1GB memory used for the review was Corsair DDR2 running at 800MHz and a nice low CAS 4 latency – currently the sweet spot for AM2 performance. The Athlon results were all performed in the PCF

labs under strict conditions, but we should be clear at this stage that the Conroe figures are only for preview purposes. We tested the new Core 2 chips in Intel's German laboratories, using systems built by Intel. We trust the figures as to be a good indicator of future performance, but will verify them next issue when we actually get a chip in our hands and can perform completely independent tests. The Conroe system used quicker memory – 1066MHz – but at higher latencies, which should cancel out any bonus. More on this next issue, though.



"As you'd expect from a \$1,000 chip, it beats everything on sale so far in the benchmarks"

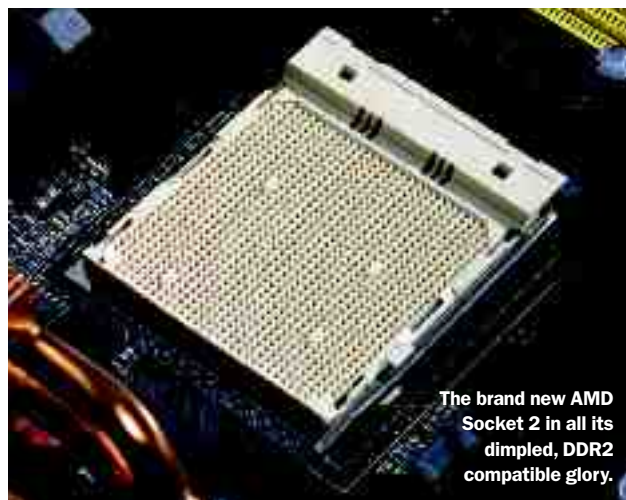


the most basic level, it's a simple bump in clock speed over the FX60, jumping from 2.6GHz to 2.8GHz. It is of course dual-core, still has the twin 1MB L2 cache and the same L1 cache. Without that new memory controller, in fact, there's not a lot new here at all.

As you'd expect for a \$1,000 chip, though, it beats everything on sale so far in the benchmark stakes. Our test system comprised of the FX62, 1GB of DDR2-800 memory and an ATI Radeon 1900XTX. For overall system performance a *Sysmark 2004* score of 297 came tantalisingly close to being the first score over 300 we've seen, while *3DMark 06* hit 6,044 and *3DMark 05* 11,902. *Doom 3*, at the standard High Detail settings, scored a whopping 159.1 FPS when we fired it up.

With Blu-ray and HD-DVD just around the corner, media encoding is ever more important and the FX62 proves to be a power-house finishing our *Windows Media Encoder* test in two minutes dead while 1080p playback showed an average CPU use of just 19% and a peak of 40%, see Conroe crunchtime).

Some of the results tell a less exciting story, mind. The running temperature of the FX62 is



The brand new AMD Socket 2 in all its dimpled, DDR2 compatible glory.

Core blimey

Intel new CPU is a killer

The AMD Athlon 64 FX-62 is the world's fastest PC processor, a thousand-dollar brute with no equal. But not for long. By the end of July, Intel will have launched the Core 2 processor, a chip that promises to completely flatten AMD's new AM2-revision Athlon 64s.

As we explained in our recent technology preview, Intel's new dual-core wonderchip combines the best of elements of both the Pentium 4 Netburst desktop chip and Pentium M mobile CPU and adds a number of key enhancements including an extra-wide execution core, massively boosted clock-for-clock SSE performance and a second generation revision of the shared cache technology first seen on the

Core Duo laptop processor. As our benchmarks demonstrate, Core 2 is the most exciting processor for years. Despite a slight clockspeed disadvantage, the E6700 2.66GHz Core 2 spans AMD's latest FX dual-core beast by as much as 40 per cent. And don't forget, the E6700 is merely the fastest mid-range Core 2 chip. Intel will also launch an Extreme Edition running significantly faster (our latest info indicates 2.93GHz). Granted, the benchmark results were again selected by Intel and conducted in a controlled environment, so the final verdict on Core 2 will have to wait. But unless something goes horribly awry, AMD's two year dominance is almost certain to be over.

phenomenally hot. At 86°C this 125 watt CPU is one of the hottest processors we've seen and shows that to go further AMD has to move to its new 65nm process – though the rest of the AM2 range is at a more reasonable 85W, 65W or even 35W (for the mobile versions).

Memory results do show that the FX62 integrated memory controller and

Athlon 4800+ running DDR1-400, in to see how big an effect DDR2 really has on overall system speed.

The result?

The DDR2 chip outperforms the 4800+, but only just. Our underclocked FX62 scored 268 in *Sysmark*, 2:16 in WME and 146 FPS in *Doom 3*, compared respectively to 266, 2:24 and 140 for

"The AM2 chips are divided into two power envelopees, with the FX sitting in its very own hot tub at 125 watts"

DDR2-800 (CL4) combination is a phenomenally fast partnership. The Sandra 05 test scored the DDR2-800 bandwidth at 7,110MB/s, faster than anything we've seen from Intel. Compare this to 5,573MB/s for an Athlon 64 4800+ running DDR1-400, and it's a more than 27 percent increase. An Intel Extreme Edition hits around 6,700MB/s with DDR2-800, so the FX62 memory implementation is certainly faster.

We also underclocked the FX62 to 2.4GHz, the same speed as the current

the 4800+. So at best the DDR2 memory is offering a six percent increase in speed. Hardly an awe-inspiring figure, and it goes to prove AMD was right to hold off on DDR2.

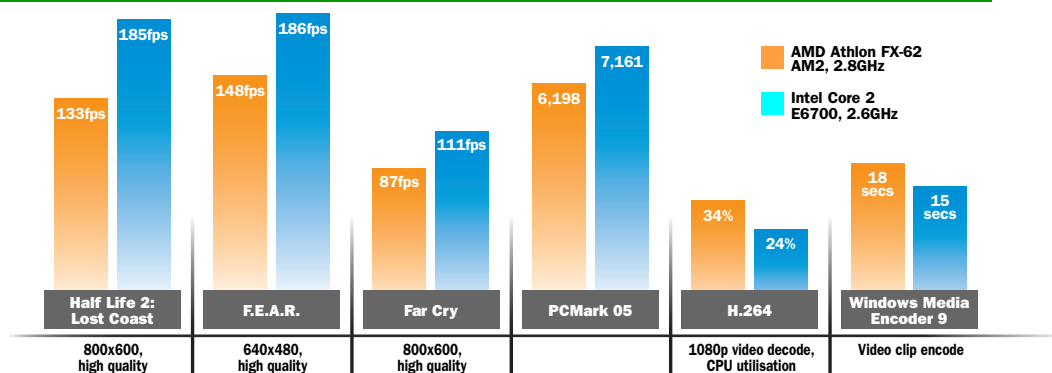
POOR RETENTION SPAN

While a socket change is enough to turn your motherboard upside-down, AMD also wants to pull the rug from under you and fiddle with the retention mechanism. That's the bracket that holds the CPU cooler. Apparently two

Conroe crunchtime: performance preview

Jeremy Laird reckons Intel will piddle on AMD's parade

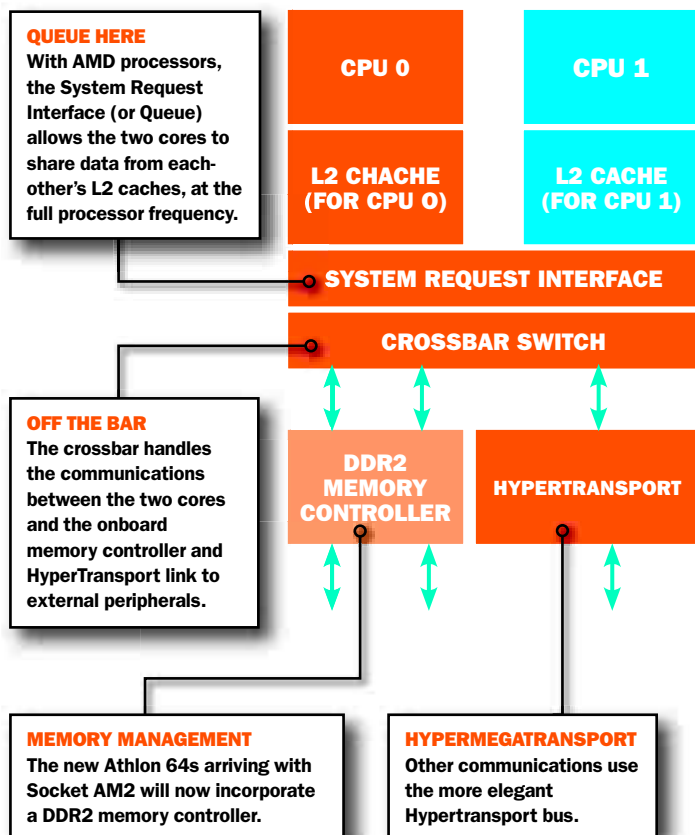
Clearly hoping to spoil AMD's AM2 socket CPU launch, Intel once again allowed *PCF* to benchmark its new pride and joy, the Core 2 processor, but this time in much greater detail. These results show how Core 2 stacks up against the new Athlon 64 FX62, with both systems running 1GB of DDR2 memory in dual channel mode and backed up by an ATI Radeon X1900 XT. But remember, the Core 2 tests were conducted under Intel-controlled conditions.



UP CLOSE Intel and AMD head to head

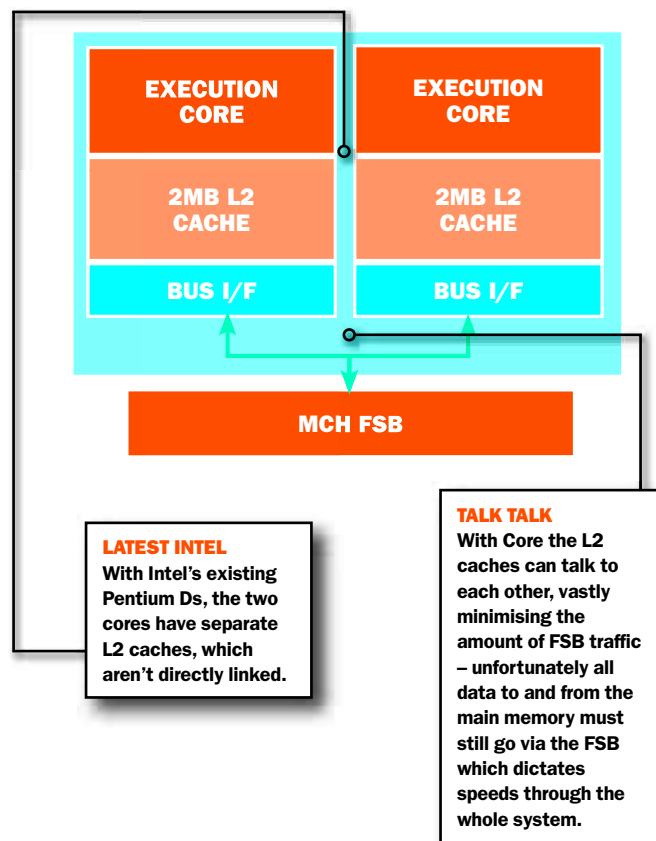
The AMD way...

How Hypertransport works



The Intel way...

Inside the old Pentium D



screws simply isn't enough, and the new bracket, while having the same dimensions, has four screws. That's just down to these things breaking on occasion leaving a heavy CPU cooler to float around inside a PC.

The other change reduces the mounting "lugs" at either end of the bracket from three to one. As the bracket is the same physical size for the majority of coolers there shouldn't be a problem and in fact our standard Socket 939 cooler attached perfectly.

With AM2 processors, AMD is also taking the opportunity to implement its Pacifica Virtualization. This is a technology that greatly speeds up running multiple virtual operating systems and does a similar job to the Intel technology, but of course is incompatible with it. The main market for this is at the server and business end, but even at home it should help accelerate running legacy operating systems (such as XP on Vista?) when we need them. Virtualization is also a key

part of AMD's Live! initiative: in the AMD accelerated home, one PC sits upstairs in the office and streams media to slave devices all over the house. With enough CPU cores and virtual OSs, it should be possible to use the same box to surf the net, play games and decode H.264 – or at least that's the argument. We're fairly sceptical about it all at this stage, but right now it's a little hard to test.

If AM2 has piqued your interest expect to find two types of models available at launch. AMD is categorising them into two power envelopes running either at 65 watts or 35 watts, with the FX sitting in its very own hot tub at 125 watts. While these ratings don't affect functionality, they do help people choose the right type of CPU, so if you want a quieter, cooler processor opt for a 35 watt unit.

The jump to AM2 was inevitable and just like the initial shift to DDR1 doesn't provided a great leap in speed, even with DDR2 reaching the heights of

It's hard to believe quite so much heat can come from a tiny little chip like this.



1,066MHz. In a couple of years we'll have DDR3, which may improve things. But for now, there's no doubt the FX62 is the fastest desktop processor out there on the shelves at the moment, but with the shadow of Conroe looming on the horizon, AMD's grip on its performance crown is definitely slipping. **Neil Mohr**

Socket	AM2 (Skt 940)
Clockspeed	2 x 2.8GHz
Cores	2 x Athlon 64-bit FX
Memory support	DDR2 800/1066MHz
Virtualisation	AMD Pacifica
Process technology	90nm process
Power usage	125 watt TDP
Running temperature	86°C
SSE	SSE3 support
L2 cache	2x 1MB
L1 cache	64KB
Memory controller	On-die

75% PCF says... "The socket is great, but it's a small jump in performance and terribly hot."

ROUND-UP

Router masters

Oh, the irony: **Mike Abolins** has four VoIP routers offering free international telephone calls, but no friends to talk to...

Back in the good old days, you'd use your telephone for talking and your PC for downloading music and 'gentleman's relaxation photography'. Now, thanks to 3G mobile phones and VoIP services, things have turned upside down and inside out. As a result we've got broadband routers that are begging to be used for voice calls and multimedia devices in our pockets that you're more likely to type on than talk with. Exciting times, these.

And the routers don't get by merely by having you install Skype; they also channel your existing telephone directly through your broadband line and placing your calls through a VoIP provider. You get all the benefits of VoIP, including cheap rates and extra phone lines, without the need for your PC to be turned on.

But how viable an alternative are these VoIP-enabled routers? BT's ordinary

phone service is so darned simple even a chimp could figure it out – plug your phone into that funny looking flat thing in the wall, pick up the handset and enter the number of the person you want to talk to. There's always the danger that, by trying to be a little too clever, these routers and VoIP services can be tricky to configure and downright intimidating to use. Given that, in most areas of the country, you still need a BT line to get any broadband service (except, obviously, for cable customers and those on dedicated networks such as Bulldog's), if you can't make a decent monetary saving easily, it might not be worth the hassle.

Also, do they sacrifice their ordinary functions on the altar of chat, failing to provide you with rapid, reliable and safe internet access? A hardware firewall is an absolute must-have these days, and if a wireless router doesn't offer one, it really

has seriously fallen behind the times. All in all, then, now's a good time to be investigating these Voice over IP routers to see if they're really all that they're cracked up to be...

HOW WE TESTED

It's the VoIP services that these routers are bought for and, consequently, that's our main testing priority. We tried them out on three fronts: how easy they were to install and set up, how simple they were to use, and how they performed, not just in the voice department, but in their other duties, too. After all, it's no good having VoIP but not offering

802.11g compatibility, for instance.

We also considered how they fit into your existing telephone network and whether you'll need to buy a new handset or not. Can you plug in your existing telephone or is a USB model required? We tested the routers on a 512Kbps line supplied by BT Broadband, with two networked PCs and one telephone.



Vigor2500V

Manufacturer DrayTek **Web** www.draytek.co.uk

£105

You'll making calls with the Vigor2500V in about 15 minutes. By plugging your existing phone into the router, you can make calls using VoIP or your regular PSTN telephone line by dialling #0 before the number. Calls to other VoIPers are free and you're allocated an SIP address (akin to a Skype ID) so that others can call you, even if they themselves aren't on DrayTek's

DrayTel service. Calls to landlines cost 1p per minute, and you're given an 0870 number so people can call you at national rates.

Call quality is good, thanks to the router setting aside bandwidth when you're using the voice facility. This means that you can continue to surf without worrying about compromising the audio quality of your call, an excellent feature.

Ports Line, phone, ADSL, 4 x LAN

Monthly sub None

Landline rate (per minute) 1p

Mobile rate (per minute) 10p daytime, 8p evening, 5p weekend

87% **PCF says...** "An excellent, reliable, feature-packed VoIP router that's only missing Wi-Fi connectivity options. Highly recommended."

BiPAC 7402VGP

Manufacturer Billion **Web** www.billion.uk.com

£115

Another 802.11g wireless router, the BiPAC also boasts a QoS service that'll set aside bandwidth, so that P2P and filesharers don't hog your line. But other than that, it simply can't match up to the wireless DrayTek model. Granted, it's £60 cheaper, but still: three ethernet ports instead of four, a less powerful broadcast connection, no USB printer port and, the real

kicker, you're baited into paying for a monthly call plan.

Considering that the main reason for using VoIP is the cheaper calls, it sucks; you can't use the service to make free calls to other VoIP users. If you want free minutes for calling landlines like a mobile phone contract offers you, you'll find it useful; for home users it's not so hot.

Ports Line, 2 x phone, ADSL, 3 x LAN, 1 x PS2

Monthly sub From £2.99

Landline rate (per minute) 2.1p

Mobile rate (per minute) 11.5p

53% **PCF says...** "A cheap unit, but the lack of ports and the monthly pay plan are deal-breakers. Better suited for office workers than the home."

ZoomTel X5v

Manufacturer Zoom **Web** www.zoom.com

£62

The only router here to offer a USB connection to your PC, the X5v is also the cheapest but that doesn't mean it's poorly specified. It's easy to set up and comes with Global Village which, like DrayTel, is free to use when calling other VoIP users and there's no subscription.

The one area that the X5v suffers in is the quality of voice calls. Like Skype, it can fluctuate

when you're uploading and downloading files and the lack of a bandwidth reservation feature is immediately evident.

Still, it is a good few quid less than any other router here, and it's a solid performer when it comes to broadband duties, uniquely including helpful instructions for setting up for online gaming with your PC, Xbox or PS2.

Ports Phone, ADSL, 4 x LAN, USB 1.1

Monthly sub N/A

Landline rate (per minute) 1.5p

Mobile rate (per minute) 14.5p

68% **PCF says...** "A decent, easy to use budget option that lets itself down on call quality, as it has no bandwidth reservation options."

Turn over for the winner...





WINNER!

Vigor2800VG

Manufacturer DrayTek Web www.draytek.co.uk

£174

Underneath the 2800VG's uninspiring blue body, there lurks a feature-rich piece of VoIP hardware. It shares the same service as its DrayTek sibling, as well as the bandwidth-reserving QoS function, but adds wireless 802.11g support and a USB port for sharing your printer over the network. What's more, the QoS is customisable,

enabling you to reserve a percentage of your bandwidth at specific times.

As a result, the 2800VG is fairly complex, but anyone who's tackled a Wi-Fi router before will find nothing intimidating here. It's £100 more than an average Wi-Fi router, though, so be sure you can make that back on cheap calls.

Ports 2 x phone, ADSL, USB printer, 4 x LAN

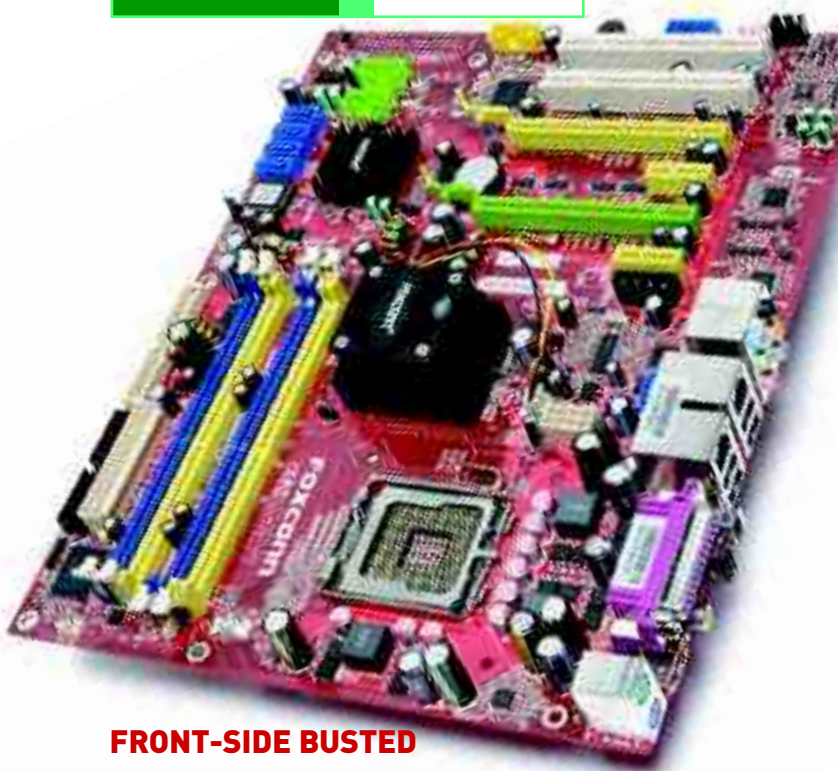
Monthly sub None

Landline rate (per minute) 1p

Mobile rate (per minute) 10p daytime, 8p evening, 5p weekend

89% **PCF says...** "Appearances can sometimes be deceptive. This is a brilliant, extremely flexible wireless VoIP router – but you'll pay a premium for it."

"Underneath the 2800VG's uninspiring blue body, there lurks a feature-rich piece of VoIP hardware"



FRONT-SIDE BUSTED

Foxconn 975X7AA

Presler and DDR800 support for top-flight performance. But at what cost?

Manufacturer Foxconn **Price** £158 **Web** www.foxconn.com

Hard as it may be to believe, Intel's latest desktop chipset, the 975, is gamer-orientated. Given the struggle it's had convincing gamers that Pentium pips Athlon 64 for performance, it's an interesting tactic for Intel, not least because it comes just before the release of Conroe – the chip that puts the boot on the other foot, as its games performance is nothing short of astounding.

HOT CHIP

But that's for the future; right now, the Pentium chips of choice are the Presler and Extreme Edition cores, and the 975 chipset is the first to support Intel's latest dual-core efforts, at a frontside bus speed of 1,066MHz. Add in the fact that most Presler cores can be overclocked to around 4GHz, and you're looking at a system that rivals Athlon 64 setups for games, and offers the media-handling joy of a common or garden Pentium. The other 'bonus' is that it offers hardware-based virtualisation – which, to be honest, isn't really of interest to anyone except server technicians, but there we go.

A well-stacked rig will require you to mortgage the family pile

though – add a standard 3.4GHz Presler core to this board, and your shopping list is close to the £400 mark. Add an Extreme Edition dual-core Pentium, and you're talking closer to the marriage-wrecking sum of £800. Nurse!

And that's the thing – to get the most out of this board, you need a Presler or Extreme Edition core. While the board will happily work with a lower-spec LGA775 chip – such as the 2.8GHz 800-series Intel CPU we used – you won't see the real benefits of that honking great 1,066MHz front-side bus. And the combined costs are, sadly, out of reach for most of us mere mortals. If you can find the justification to couple them up, however, you'll be the envy of the server.

AI Bickham

Form factor ATX
Socket LGA775 (supports Pentium D900 series)
RAM DDR2 667/800/1066
Graphics PCI-E x1
FSB 1,066MHz
Chipset Intel 975X

73%

PCF says... "A cracking board, but pricey. Our advice? Wait for Conroe"

OBEYS KNOWN LAWS

ASUS PhysX P1 128MB



Last month *PCF* tested the first ever PhysX card... and now we have the second

Price £195 **Manufacturer** ASUS **Web** www.asus.com

And so the race begins. The first wave of Ageia PhysX cards is upon us, and the first two rivals, neck and neck out of the starting gates, are ASUS and BFG. Both cards sport 128MB of RAM and both are, well, virtually identical.

Physically, this ASUS card is almost a dead ringer for BFG's effort. They're both mounted on a rather industrial-looking, no-nonsense blue PCB, and there's very little in the way of flashy branding. Unlike the BFG, this ASUS board has no blue LEDs in the fan, and if you're the sort of person who likes to show off the fact that you're an early adopter through the Perspex hole in the side of your case, you'll have to write a sign in EL wire to point out that you've got one of these cutting-edge cards onboard.

PHYSICAL ATTRACTION

Aesthetics aside, both cards perform more or less identically. A minor drop in fps on this ASUS board in *Ghost Recon: Advanced Warfighter* (45fps instead of 53) is explained by the fact it's impossible to benchmark two identical scenes. There's still a large CPU overhead when all those pretty in-game boxes are

sent flying, but there's still not enough optimised code around to really push the limits of this new technology, so it's not fair to judge CPU use too harshly. All that will change when the *Unreal*-engine games start flowing later this year, but for now there's basically nothing in it. This ASUS costs £20 less than the only other Ageia card on the market, but they both have eerily similar innards (2TB/s internal memory bandwidth, 20 billion instructions per second, 530 million sphere-to-sphere collisions). Benchmark-wise, *Cell Factor* runs slower than the BFG board (33fps versus 36) and the gap in the *Switchball* demo is so small a nanotechnologist would miss it. So, this is the card of choice, unless you're willing to pay £20 for some LEDs. **James Carey**

Processor Ageia PhysX

Bus PCI

Memory 128MB GDDR3

Memory speed 733MHz

Peak instructions 20Billion/sec

Process technology 0.13 Micron

85% **PCF says...** "£20 is £20, and you'd be daft not to go for this over the BFG."



**"The
two cards are
nearly identical"**



BITTER PILL

Samsung Q1

A PC in the palm of your hand. But can the Q1 cut it, or is Samsung's Origamieffort doomed to fold under pressure?

Price £799 **Manufacturer** Samsung **Web** www.samsung.com/uk

Swathed in its obsidian skin, the Q1 looks every bit the executive plaything, and, while hefty for a portable, this first device compliant with the Origami standard is much more than just a calorific PDA. Crammed inside the shiny carapace is a Celeron M mobile processor, a 40GB hard drive and 512MB RAM – not a powerhouse by any stretch of the imagination, but more than enough to run Windows XP and keep your hands warm on a Winter's day.

Unfortunately the Q1 is hampered by a few flaws. The first is the sub-standard thumbstick, which, delivers an inconsistent and unpredictable response, rendering it nearly useless. The second is the 800x480 touch sensitive screen – we're willing to bet Dracula fared better in direct sunlight than this display. Take the Q1 outside on a nice day, and all you'll be treated to is a murky grey reflection of your own face, ruining the potential for techno-posing.

Despite the meagre system specs, at least by laptop standards, we decided to give the Q1 a bit of a hustle to see what we could squeeze out of it. In terms of benchmarking, the PCMark score of 1,171 is positively feeble, but,

more importantly, we managed to get the heavily downscaled *Half-Life 2* running at a playable if juddery lick, and wander around the office with it. There's no better reminder that this remains a fully fledged PC. You won't be dabbling with *Quake IV*, though, unless breaking £800 devices is a hobby of yours.

MOBILITY IMPAIRED

We concede that the Q1 feels functional in a way other handheld devices don't currently manage, especially with a Bluetooth mouse attached. We'll even

admit to liking the idea of a handheld that, when augmented with a USB mouse and keyboard and a VGA monitor, becomes a usable home system. What

we won't lie down for, though, is the severe bout of first iteration-itis that the Q1 seems to have contracted – the crushing disappointment of the screen, the decidedly limp battery life (a shade under

"Dracula fared better in direct sunlight than the Q1's screen"

two hours, all but ruling it out for watching movies on the hoof) and the inflated current price puts it up against the gorgeous Asus S6, and there's cust no competition until the concept gets refined.

Mike Channell

Touch typing

Hurrah! Another user interface to learn



The new Microsoft TouchKit includes this slick interface, for quickly selecting commonly used programs, and the DialKeys method for thumb typing. While it doesn't quite bridge the gap between portables and laptops, it is far more efficient than a standard PDA.

CPU	900MHz Celeron M
RAM	512MB
Display	7-inch 800x480 touchscreen
Graphics	Intel 915GM integrated
Storage	40GB
Connectivity	2 x USB, 1 x VGA, 1 x ethernet, 1 x CompactFlash, WiFi, Bluetooth

52% **PCF says...** "We don't want to piss on the fire; the Q1 is exciting, but don't buy it."



SLI IN A LAPTOP

Rock Xtreme SL

What you lose financially you more than gain in cracked vertebrae...

Price £2,348 Manufacturer Rock Web www.rockdirect.com

Park your car on this: a laptop bigger and heavier than any we've seen before. The Rock Xtreme SL weighs six and a half kilos. Six and a half! You could flatten a small Midlands town with that. So no, you're not going to want to sit on the sofa with this baby on your lap. You're not really going to want to move it around at all. While it looks like a laptop, you just can't use it as one. It's about as portable as a grandfather clock.

And the reason for its 'generous' proportions? Inside that colossal chassis is housed a pair of Go GeForce 7800GTX GPUs – an SLI laptop, no less. And the performance is, as you'd hope, weapons-grade. This machine happily drives *Call of Duty 2* at its peachy native letterbox resolution of 1,680x1,050, and it does so in creamy fashion, averaging 40FPS at 4x anti-aliasing and 8x anisotropic filtering. Good work.

Less impressive is the physical demeanour of the machine. The keyboard bends under the slightest fingertip pressure, which makes it feel springy and insubstantial. The finish isn't terribly good either – cheap, grey-coated plastic never makes us jump for joy. Compare it

with the aluminium-effect cool of the similarly slab-like Samsung M70 (PCF186, 87%), and tell us which you think looks sexier.

HOW MUCH?

And then, we come to that price tag which is just as weighty as the machine. For over £2,300, you should expect diamond encrusting, gold leaf, and a kiss on the lips from your favourite celeb as he/she delivers it daintily to your door. What you actually get is a style-free brick of a machine. And just think: in a month's time, the version with twin 7900GTXs will doubtless arrive. How conned will you feel then?

AI Bickham

CPU Turion 64 ML-42 (2.4GHz)

RAM 1GB DDR400

Core Logic nForce4 SLI

Graphics 2 x GO 7800GTX (SLI)

Hard drive 100GB 7200

Optical Drive 8X DRD/RW

Warranty 3 years

3DMark06 score: 5,350

CoD2 1,680x1,050, x4AA
x8AF: 40fps

69%

PCF says... "Pricey and heavy enough to hole the USS Kittyhawk."

BUM DEAL

Butt Kicker Gamer

We're all for greater immersion in games, but we'd rather not actually be violated

Price £120 Manufacturer ButtKicker Web www.thebuttkicker.com

Why pay the train and tube fares to London, then the inevitable on-the-door fee at a seedy Soho S&M joint, when you can have your plump rump punted in the comfort in your own living room? Clearly, peripheral manufacturers have been missing a trick...

But no, this isn't some USB bondage device, designed to work with Lula 3D. It's actually designed to enhance the gaming experience with rumbling and jiggling. It consists of an amplifier unit and a gyroscopic vibrator (stop sniggering at the back), which attaches to the shaft (stop!) of your chair. Wire it all up, connect it to your sound card, and through the power of electrical signals, it transforms sound into motion.

ROCK BOTTOM

A quick blast of *Quake* shows that it works very well – loose off a rocket, and it rumbles harder than your tummy at tea-time. In every respect, it's effective at the job it's designed to do, converting explosions, impact noise and the staccato chatter of automatic weapons into a series of kinetic

effects which have your chair shaking 10 to the dozen.

However, the concept is essentially flawed, as the vibrations are basically originating from the wrong source. Don't mistake this for a proper force feedback setup, where resistance and motion is felt through events in the game that are programmed to produce the effect in force feedback-specific hardware. Anything you can hear in the game is reproduced as juddering, which, well, doesn't quite feel right. NPC conversations are a case in point; it's not often in life that you're shaken about by the turbulence from someone's flapping lips. Force feedback should be reserved for firefights, impacts and the like, not random environmental noise, music stings and other non-impact audio events.

AI Bickham

Dimensions 292x70x76mm

Response 10-250Hz

Impedance 2 ohms

Weight 6.3kg

38% PCF says... "Entertaining for a while, but soon becomes irritating."





The upcoming *GTR2* is one of the best ways to enjoy this outlandish setup.

VIDEO WALL

Matrox TripleHead2Go

Three screens from just one VGA cable and a single graphics card? Chuck it in a river and see if this electronic witchcraft floats...

Price £206 **Manufacturer** Matrox **Web** www.matrox.com/home_uk.htm

This is, as far as we can discern, an enchanted black box that takes a single VGA cable from your graphics card or laptop, performs witchcraft upon it, and allows you to increase and divide the output to a frankly ridiculous 3,840x1,024 across three 1,280x1,024 monitors.

With the TripleHead2Go you can either utilise more desktop space than you've ever seen, or play a game in what can only be described as 'surround-o-vision'. After using it, you should promptly bury it by the light of the moon before it turns into a cat.

The results are pretty impressive, and, heretical ravings aside, it's actually an extremely simple system. The TripleHead2Go does the job of a monitor's video controller, fooling Windows into thinking it is dealing with a single enormo-screen. Even on a laptop with an average mobile GeForce 6800, the performance was surprisingly stable. Clearly shifting 3D across nearly four million pixels is not as strenuous as we'd been led to believe.

We tested the setup with a variety of titles, from our preview copy of hardcore driving sim *GTR2* to office stalwart

Quake IV, and most were entirely playable. The game that suffered most was *Oblivion*, but playing Bethesda's epic is a bit of a compromise on most systems anyway, and with a decent SLI rig everything barrels along nicely.

PERIPHERAL VISION

Also, some games are more suited to an increased field of view than others – *GTR2* was hugely enhanced by the added peripheral awareness, whereas *Quake IV* left us feeling nauseous. If you've completely lost your grip on



Box of tricks

Setting up the device is a cinch...



Plug three monitors into the TripleHead2Go and connect it to your graphics card, right click on your desktop, select Properties and then the Settings tab and finally stretch the resolution to its maximum. On a laptop, as here, the enormo-screen can be assigned as the primary display for gaming.

reality, you can even use a laptop's existing panel as a fourth screen using XP's multiple monitor support, so you can play your super-widescreen game and have your MSN contacts and icons visible as well.

The only drawbacks are a lack of DVI and the financial one – few of us can afford two extra monitors, plus the cost of the unit itself. With the included Surround Game Utility (which edits the config files of popular games so that they support the greater resolution) it's clearly aimed primarily at leisure rather than business use, but only the most ambitious flight sim fanatics will be able to justify the total outlay. **Mike Channell**

Max resolution 3,840x1,024

Max diagonal 45-inch

Refresh rate 60Hz (75hz at 3,072x768)

Size 107x87x21mm

Input 1x VGA

Output 3x VGA

Extras VGA cable, DVI to VGA cable

88%

PCF says... "A very clever little box, but can you afford this and those monitors?"



SCARTY-FARTY

HV355U Mobile Media HDD

All hail SCART – at last, a DIVX box that's aware Europe exists. Except...

Price £133-£258 Manufacturer ATMT Web www.atmtgroup.com

Were PCFormat ever to stage a war, once we'd finished wiping the Earth clean of pushchairs and clipart, the next object of our aggression would be S-video. It's vastly inferior to the RGB SCART sockets found on most half-decent UK TVs, but because it's the most widely-used interface in the US, it's everywhere. Ever tried connecting your PC to a telly via S-video? Yeuch.

So, it's a massive relief to discover a standalone (there's no networking – just copy files from your PC over USB 2.0) hard drive video player with a SCART port built in. With DIVX, XVID and VOB support, on paper the HV355U is the perfect portable media box.

BAND OF BOTHER

'Perfect' was not the description that PCF used the morning after a night's testing on our DIVX collection [of movie trailers – Ed]. Its built-in fan made more of a racket than a small form factor PC – you'd get used to it, but it's initially very distracting.

The video picture, despite looking reasonably crisp over SCART, suffered slightly from the banding effect often seen on video devices with a low colour depth

and poor contrast – still better than S-video from a PC, though. The picture is superior over its component video connection, but how many people use that? The inclusion of digital audio outputs is very welcome, however.

The interface is very basic, offering no thumbnails or tag reading, so you're often left with a lot of miXEd_cASe_tEXt_wlth_UNDErSCORes_, depending on the naming conventions you use for your media files, but it's straightforward enough to use. Its portability aside, given that you could construct a video-capable media centre box for the same price as the 400GB model, the fan and picture quality failings mean our wildest SCART dreams have not yet come true.

Alec Meer

Capacity 160-400GB

Interface USB 2.0 (type B-connection, cable included)

Video outputs Composite, SCART, component Y, PB, Pr

Audio outputs Dual phono, 3.5mm jack, digital coaxial

Supported formats DIVX, XVID, MPG, VOB, MP2, MP3, WAV, JPG

63%

PCF says... "Better than the S-Video hordes, but the fan noise is a pain."

DIGITAL DJ

Terratec Noxon 2



Find all the music you'll ever need with this nifty internet radio streamer

Price £150 Manufacturer Terratec Web www.terratec.co.uk

Effectively a cross between an Mac Mini and a Philips Streamium, the Noxon 2 Audio is a digital media adaptor that gives you access to 2,500 web radio stations.

Its front is dominated by a large blue-backlit display that scrolls through any music files on your network as well as the radio stations, while around the back and sides you'll find all the connections you need to hook the Noxon 2 up to your home network, as well as with analogue and digital audio outputs so you can plug it into your stereo. You can even use it to play back tunes stored on a USB flash drive.

Set up is easy; you can link the system to every PC in your home using an ad hoc peer-to-peer network. You can also save up to three different network setups by assigning them to profiles in the box – very useful if you ever need to move the Noxon 2 around.

Favourites folder on the fly. The TwonkyVision uPnP software is easy to get to grips with, although you also have the option to use Microsoft Connect or MusicMatch services if you prefer.

Sound quality obviously varies widely depending on the amount of compressions applied to the audio signal. This is especially true when it comes to enjoying internet radio but you'll find few complaints from us. The option to stream up to 320Kbps MP3s via your network works brilliantly, so you can enjoy CD-quality tunes through your hi-fi without having to fetch the discs. The only problems are that the Noxon 2 audio doesn't offer AAC playback (which would have been handy for iTunes users) in its current guise, and lacks a built-in amp and speakers. The latter will be remedied later this year with an upgrade box that will also come with a built-in FM radio.

Rob Mead

SIMPLE OPERATION

Once the unit's up and running, it works seamlessly – with playback controls on the top of the box and a sturdy remote to help you find your way through its well laid-out menu system. We particularly like the 'thumbs up' and 'thumbs down' buttons that enable you to quickly add or remove selections to the device's

Max. number of stations 2,500

Connectivity 802.11b/g Wi-Fi

Playback formats MP3, WMA9 and Windows Media 10

Ports Ethernet port USB 2.0 socket, analogue and digital audio outputs

85%

PCF says... "Only the lack of AAC support lets the Noxon down."



HEAD-TO-HEAD

CHEAP THRILLS

PowerColor X1600 Pro

Tempted to upgrade your AGP graphics on a shoestring? Show care and read on...

Price £101 Manufacturer PowerColor Web www.powercolor.com

Let's cut straight to the chase here – the X1600 Pro is not cutting-edge. If you're looking to drive a large display, then forget this – it's going to struggle with certain settings at a 17-inch TFT's standard resolution. What it does have up its sleeve is a full Shader Model 3.0 rendering engine and, of course, a price that's very tempting indeed.

The card ships with a surprisingly noisy cooler, 512MB of RAM (not actually that important) and, in case you haven't spotted it yet, an AGP interface. Haven't upgraded your motherboard recently? Then you should, or at least think about it. Of course if you're waiting for Conroe or AM2 then this could tide you over, but a second hand card could probably do that as well.

the usual triumvirate of video outputs – VGA, DVI and S-Video.

The key factor of any card is performance, because ultimately that is what will sink it or grease it up ready for the long swim. The X1600 Pro does the doggy paddle. As already hinted, if you want to stress this card, you can – up the resolution or turn on FSAA and it'll crawl. Run it at 1,024x768 though and you should see at least 60fps across the board. It's eminently overclockable too.

The AGP market is garnering serious attention right now, and while the PCI-Express spins of this chip may be unremarkable, in an AGP slot it's hard to beat this for the money.

Alan Dexter

BARGAIN BUY

This is a full height card, so not suitable for low-profile machines, but it is only one card wide and much shorter than most graphics cards. You'll still need reasonable clearance next to the card, but its size does make it a tempting proposition for machines that are on tight on space. You will need a floppy power connector free (there's a converter in the box if needed). Aside from that you get

VPU 500MHz ATI Radeon X1600 Pro

RAM 512MB DDR2 128-bit (400MHz)

Pipelines 12

Output VGA, DVI, S-Video

Interface AGP

BENCHMARKS

Half Life 2 (1,024x768) 56fps

Doom 3 (800x600) 55fps

Far Cry (1,024x768) 63fps

3DMark06 (1,280x1,024) 1715

3DMark05 (1,024x768) 4015

79% PCF says... "Great if you're lagging behind, but no tour-de-force."

HEAVY HITTER

Bliss 7800GS Silent



Gainward brings its own special brand of extreme to the AGP graphics market...

Price £256 Manufacturer Gainward Web www.gainward.net

Just in case you can't tell from the photo, this is a big card. Probably the biggest AGP card we've seen (we've expunged the GeForce FX 5950 from our collective memories for obvious reasons). Surprisingly, this large cooler doesn't equate to ridiculous sound levels – it's actually hard to tell that it's running at all – apart from that silky smooth rendering.

The 7800GS core is clocked at 425MHz, with the 512MB of GDDR3 RAM ticking along happily at an effective 1200MHz. This is a 20 pipeline GPU, and supports Shader Model 3.0, although HDR and AA can't be turned on at the same time (unlike ATI's cards). Even so, there's a lot to like. An incredible amount, in fact.

SWAN SONG

The figures printed may not look that much more impressive than the far cheaper X1600, but the difference is clear when you up the settings. Turn on 4x FSAA and 8x AF, and games aren't reduced to an embarrassing slideshow. Doom 3, Far Cry and Quake IV were all hovering around the 60fps mark at 1,600x1,200. And while the crippling F.E.A.R. was down to half that, it is eminently playable with

no FSAA and AF. The 3DMark06 result of 4,029 shows that this should be able to have a crack at tomorrow's titles too. This is the fastest AGP card we've ever seen.

Now for the tricky bit – should you buy it? The rest of the world has moved onto PCI Express now, so when you upgrade your CPU, you're not going to be able to take this with you. AGP offers no easy SLI upgrade path either, so it's not as if you can buy another one when things begin to slow. But if you see yourself using your existing AGP systems for another couple of years yet, then fine, spend away.

Alan Dexter

VPU 425MHz NVIDIA GeForce 7800GS

RAM 512MB DDR3 128-bit (600MHz)

Pipelines 20

Output 2x DVI, S-Video

Interface AGP

BENCHMARKS

Half Life 2 (1,024x768) 68fps

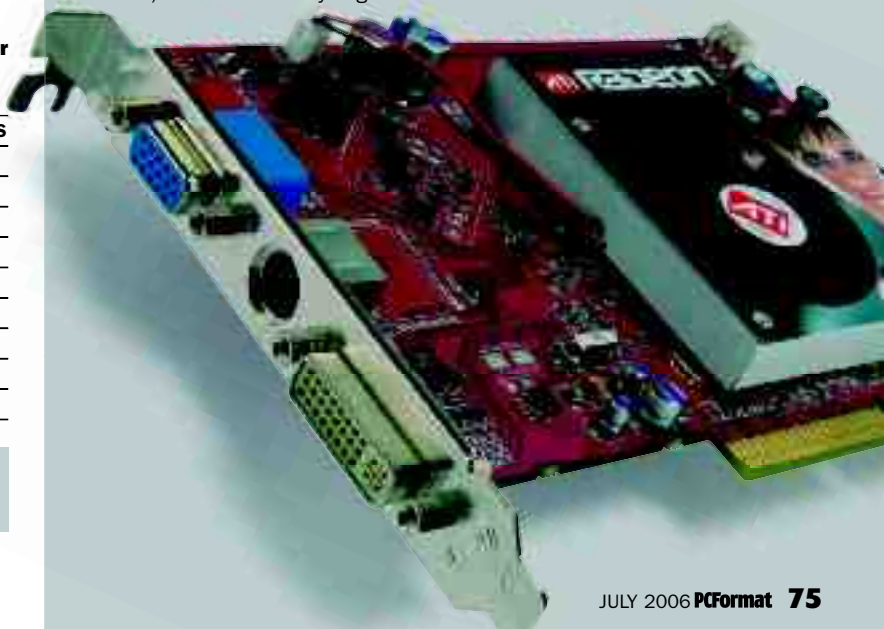
Doom 3 (800x600) 105fps

Far Cry (1,024x768) 72fps

3DMark06 (1,280x1,024) 4035

3DMark05 (1,024x768) 7268

86% PCF says... "Powerful, but constrained by the AGP slot it champions."



Pocket money pages

**SUB-£100
GOODIES
FOR THE
BARGAIN
HUNTER**



Trendnet TEW 429UF

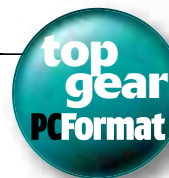
The ultimate traveller's companion has arrived...

Price £77 Manufacturer TrendNet Web www.trendnet.com

There has rarely been a greater example of the jack-of-all-trades approach to peripherals. Trendnet has somehow crammed a WLAN adaptor, 512MB of flash memory and a wireless hotspot detector into this pocket-sized device. The detector picks up any signals in range and presents the wireless standard, signal strength and security on an LCD screen, thus saving you the effort of hauling out your laptop.

While we'd be loath to pick up a standalone detector, TrendNet has made us realise not only how useful they are, and just how many pubs and bars are hopping on the wireless bandwagon. Of course, if your notebook lacks a wireless adaptor, this becomes something of a bargain, too.

Our only criticisms of the 429UF are that it's perhaps a shade expensive and slightly on the chunky side, compared to some USB keys we've seen, but when there's this much tech included, you're hardly likely to worry about it ruining the line of your trousers.



83% PCF says... "A fantastic amalgam of useful tech in one stylish device."



AVerTV DVB-T Volar

Price £50 Manufacturer AVerMedia
Web www.averm.co.uk

With the analogue switch-off sashaying ever closer and Freeview programming finally beginning to justify its existence, there's never been a better time to grab a digital tuner for your PC or laptop. The AVerTV DVB-T Volar is a pocket sized USB 2.0 effort, which comes complete with a stubby RF aerial which allows surprisingly effective signal wrangling. The sleek device is backed up by a smart, intuitive interface and the now de rigueur MPEG2 recording and timeshifting options. Crucially it's also Windows Media Center compliant, which gives it a leg up over some of the competition.

80% PCF says... "Still can't get bloody reception in Bath."



Creative Headset HS-300

Price £15 Manufacturer Creative
Web www.creative.co.uk

Unlike the fancy headsets we often receive for Pocket Money, the HS-300 is cheaper than rolling in mud. Unfortunately, leading the charmed life that we do, we're used to handling kit that is a little sturdier and as a result we've already snapped the right earphone off and the left is starting to show the white scar of plastic stress. Sound quality is reasonable, but nothing to initiate a VoIP call home about, and to be honest we're afraid that even if ours hadn't been scuppered by hand, it wouldn't be long before it shattered 'twixt buttocks and office chair.

38% PCF says... "Cheap, and flimsy like a three-legged deck chair."



iMation Wristband Flash Drive

Price £17 Manufacturer iMation
Web www.imation.co.uk

It's not often we see manufacturers tread the peripherals-as-fetish-wear route, but that's exactly what iMation has done with its rubberised wristband flash disk. As soon as we unpacked it, we were hit with the same wave of nausea, thanks to a pungent synthetic aroma, that we get when we wander past one of those inexplicable shops dedicated to soap and bath salts. Aside from that, this just appears to be an overly expensive way to get your hands on 256MB of flash memory. There's no doubt this drive is durable, but whether you'd actually want to wear one is another matter entirely.

41% PCF says... "The gimp-tastic rubber makes us feel a bit ill."



File Carrier 1GB

Price €49 Manufacturer Revolttec
Web www.revolttec.net

Should you ever feel the urge to perform a file transfer while skydiving from 30,000 feet, snowboarding down the north face of K2 or surfing a 60 foot wave off an atoll in the Caribbean, this is the flash drive that won't shatter the (possibly Pepsi Max-fuelled) illusion that you are indeed 'xtreme'. In reality the only time you're likely to whip this out is when you're sitting at a computer, but it doesn't hurt that it's a handsome device. The fact of the matter is, there are an awful lot of flash drives around, so if you find you're enamoured to the File Carrier's snazzy stylings then by all means grab one.

90% PCF says... "A smart looking 1GB flash drive, nuff said."



Wolf Claw Devour

Can this old dog teach you any new tricks?

Price £50 Manufacturer AVerMedia Web www.averm.co.uk

We have little patience for controllers that mimic the WSAD layout of a keyboard – after all, you already have one... it's in front of you every time you sit at your PC. Attempts by manufacturers to make us better gamers are met by two unsurmountable problems: the WSAD system is near-perfect, and Tech Ed AI will still win at *Quake*, whichever flash new doubrie we connect in an effort to end his Schumacher-esque dominance of office-based deathmatches.

We are prepared to concede, however, that the Wolf Claw is a better effort than most. For a start, the circular design ensures that even though some of the keys are in questionable positions (such as the [Alt] key, which is for some reason seen as lower priority than the tilde), most are within reach. Secondly, it claims to be splashproof – and after a Bounty advert-style test we can confirm that it worked even after we doused it with a full cup of water. Whether it stands up to Tango and its sticky ilk is anyone's guess.



Round IDE cable

Price £2 Manufacturer 3XS
Web www.scan.co.uk

A windowed chassis can be a beautiful thing in the right hands, but there's no better way of spoiling the interior vista than with a handful of grotesquely utilitarian cable. To find inner beauty, you'll need a nice PSU with sheathed cabling, and a decent round IDE cable. Subtlety is the key, we reckon (although Games Ed James, who owns a rig that lights up like Blackpool on a balmy August evening, would probably beg to differ). In our blue-lit test rig, this effort from Scan looks spot on, adding an air of professional design and quality. Plus, it doesn't mangle your PC's precious airflow dynamics like a standard IDE cable. Highly recommended.

84% PCF says... "Looks good, does the job. A very worthy mod."



Sharkoon 4-in-1 UV kit

Price £9 Manufacturer Sharkoon
Web www.scan.co.uk

Interior LED case lighting may look the part, but for a really magical glow, you should plump for the clubber's favourite: ultraviolet light. It's richer, cooler, and actually a bit eerier than standard in-rig lighting, which can add bags of character to even the most basic of windowed chassis. This sharkoon kit consists of four UV tubes, which connect to two Molex-friendly relay boxes. These in turn have their own on/off switches, which can be mounted internally or externally. The glow is gentle, but picks up UV-reactive surfaces with striking clarity. Subtle, yet striking.

89% PCF says... "A superb all-in-one ultraviolet lighting kit."



Akasa 45CM UV SATA cable

Price £3 Manufacturer Akasa
Web www.scan.co.uk

Combine this snazzy little fellow with yonder Sharkoon kit, and you'll have a glow-in-the-dark gaming setup that's fit for a king. While it looks quite nice in normal daylight, with its glossy, sparkly blue colouring, it lights up amazingly under UV, coming on like a ribbon of futuristic plasma running through your PC. There's innovation in them thar connectors, too, as the hard drive end of the plug is angled down at 90° for your rig-modding convenience, and the both ends have handy clip-in systems to secure them properly to their sockets. Good work.

91% PCF says... "The SATA cable of choice for your UV-rig."

Long term test

RATINGS BEYOND THE WARRANTY



Hauppauge WinTV USB

When I first got this emerald box, the world was a very different place. Digital TV was for people who ironed their socks, and USB 2.0 was just a twitch in some boffin's frontal lobe. But despite the medieval technology we all endured, some of us dared to dream of watching television on a laptop and, by Jove, Hauppauge was there to accommodate our revolutionary spirit.

By rights, the WinTV USB should be obsolete. We now have USB tuners that juggle digital and analogue signals, fit into that useless sub-pocket you find on pairs of jeans, and have managed to haul themselves above a 352x288 resolution. But I still use the WinTV USB for several reasons. First, Bath is notoriously shy of digital signals, so I'd only be using analogue anyway. Second, I don't want to record every crap programme in MPEG2 and watch my laptop hard drive buckle – WMV will do. Third, it's WDM compatible, so it works with my ropery copy of *Showshifter 2*. Frankly I don't care that the white balance is out, and that the video is sub-VCR quality, because, despite the onward march of technology, it still serves my purposes. I should really remove that wicker man from my garden, though – it's starting to scare off my neighbours. Mike Channell

We want your reviews... of stillHoved old kit: al.bickham@futurenet.co.uk



It's easy to drop clip art onto your images, though the bundled images are cheesy.



The editing tools are effective, but some of the basic tools are bizarrely fiddly.

NOWHERE NERO 'NUFF

Nero PhotoShow Deluxe 4

This multi-talented disc-burning and photo-editing suite attempts to kill several birds with one stone. How will it compare to the market leaders?

Price £30 Publisher Nero Web www.nero.com

Burning CDs and DVDs can now be done with a ton of free tools, so makers of authoring programs have to keep piling on the extras to get us to buy their shrink-wrapped solutions.

In the case of *PhotoShow Deluxe*, Nero has bolted on an entire photo management and editing suite. The result is convincing for £30, though anyone hoping for a top-drawer photo editor, with additional disc-burning toys thrown in, will be disappointed. The key functions are listed under 'Manage,' 'Make' and 'Share.'

The first heading enables you to locate and organise all the digital images and videos on your PC. Unfortunately, it only searches folders stored under 'My Pictures,' or folders which have been imported into *PhotoShow Deluxe 4*. So, if you're like us, with photo folders strewn all over your PC, your searches prove fruitless.

Once you've located a photo, clicking on the thumbnail brings up Nero's editing tools. Again, these are a mixed bag. Auto Fix works pretty well at correcting underexposed images and wishy washy colours, though it's a bit heavy handed. Red eye correction works

well, but you have to switch to the Touch Up or Paint tools to zoom in, which is very clunky. A Straighten tool for fixing wayward horizons would also have been useful, certainly more useful than the pants collection of clip art you can use to ruin perfectly good photos.

GOOD, BUT NOT GREAT

Nero redeems itself by including Levels tools for tweaking contrast and highlights, and a good selection of filters, from the mundane to the wildly artistic. There's also a Rotate tool, which unearthed a possible bug in our copy of the application – every time we rotated an image, then tried to use Auto Fix, the program returned to the Rotate mode and then froze.

Basic video editing tools are also available, but it's clear that Nero is principally aiming this application at stills photographers rather than camcorder-wielding holidaymakers.

The Make tab reveals some rather good tools for creating fancy slideshows, or 'Photo Shows' and screensavers. Stringing together your favourite photos in a Photo Show is really easy, and there's a fun collection of frames,

YOU SHOULD ALSO CONSIDER...

- >> **Paintshop Pro 8**
JASC
- >> **Digital Image 2006**
Microsoft
- >> **Photoshop CS2**
Adobe

"The disc burning tools are powerful, comprehensive and easy to use"

backgrounds and soundtracks (you can add your own MP3s, too). The disc burning tools are powerful, very comprehensive and easy to use.

There is a lot to like about this package, but the tools are basic. Nero

urgently needs to add an easier to use zoom tool, and as we've mentioned, an option to straighten horizons would be a boon. If the photo-editing side was more compelling, Nero would have an easier job convincing people to shell out £30. At present, the photo-slideshow extras, while useful, probably won't be enough to close the deal.

Geoff Harris

Needs 700MHz CPU, 256MB RAM, 500MB hard drive space

Wants 1GHz CPU, 512MB of RAM, 1GB hard drive

75% **PCF says...** "Keenly priced and foolproof package, let down by rather basic editing tools."



FORMAT FARRAGO

PodMediaCreator

Less of a creator and more of a converter, is this really the best way to fill your iPod?

Price £20 Publisher Avanquest Web www.avanquest.co.uk

The soothing white packaging, the sans serif fonts, the complete lack of spaces in the title; yup, it's another bandwagon-jumping iPod-related product. *PodMediaCreator* is aimed at owners of iPod Video and nano units who want to convert media files for use on their slinky players. Unfortunately, and we hope we haven't ruined the ending for you here, it's resoundingly rubbish.

The suite is divided into music, photo and video sections. The music tool is designed for splicing your tracks together and fading them in or out. Unfortunately, we can't find any reason why you'd rather do this than create an *iTunes* playlist in *iTunes*. The theme of near uselessness extends to the photo app too, which might be best described as *Paint*'s embarrassing idiot brother.

VIDEO NASTY

Finally there's the marginally more useful video editing facility (well, unless you have an iPod Nano, natch), which at the very least does the job of converting popular video formats to iPod Video-friendly MPEG4. We can see the need to bring simple one-click video conversion to the iPod-toting

masses, but where the free *Videora iPod Converter* (www.videora.com) turned around a 45MB MPEG4 file in 90 seconds, *PodMediaCreator* took over six minutes to convert the same file. That's over four times as long, maths fans.

We'd try it with a full length DivX movie, but frankly we're afraid that the muscle wastage caused by that Rip van Winkle-esque waiting period would render us incapable of pressing the play button at the end of it all. There are options to add titles and music, but why you'd choose to use this clunky interface over the more flexible *Windows Movie Maker* is beyond us.

Finding fault with this product isn't difficult, but the thing that offends us most is that some poor souls will actually buy this rather than spending five minutes searching our DVD for vastly superior software. **Mike Channell**

Needs 400MHz CPU, 128MB RAM, iPod Video/nano

Wants 1GHz CPU, 256MB RAM, iPod Video

21% PCF says... "Better and cheaper software lurks all over the internet."

DISC DOCTOR

Ulead DVD Movie Factory 5

Aching to create slick DVDs? This could be the application for you...

Price £30 Publisher Ulead Web www.ulead.co.uk

Home made DVDs can be divided into two very distinct camps – those with clunky menus, cheesy music and horrible backgrounds, and those that have been made on a Mac.

Evidently Ulead feels that the balance should be redressed, and that even though our computers don't look like designer light fittings, we'd quite like to make professional looking DVDs too.

DVD Movie Factory 5 is an intuitive alternative to the ropery software that comes with most DVD writers, and allows for quick editing of captured footage, and supports Blu-ray and HD-DVD. The program follows a step-by-step process from initial collation and trimming of clips to burning the final disc. Obviously, there's a lot less to the video editing portion than a fully fledged program like Ulead's own *Video Studio* series, but a couple of neat features have snuck through nonetheless.

The most inspiring is *Ad-Zapper*, which checks TV recordings and attempts to flag up the adverts for easy removal. Unfortunately it isn't *entirely* foolproof – a quick check is necessary, but for the most part, it manages to isolate the huge

chunks of programming and remove the corporate grot. For more precise cuts, the jogwheel is also a boon.

MENU AT WORK

The DVD menu builder's very straightforward, but unfortunately you're limited to modifying example menus. Luckily there are plenty of pre-made menus, which range from minimalist text-only efforts to the nifty 'Smart Scene' templates – menus with a video preview window that can be resized and moved as you see fit.

The main advantage of *Movie Factory* is its unfussy way of churning out discs. If we are to use DVDs like we used VHS, we only want to produce the perfect menu for footage of our child's first steps, whereas for re-runs of *Desperate Housewives* we just want to nuke the ads. *DVD Movie Factory 5* makes either possible in a few minutes. **Mike Channell**

Needs 800MHz CPU, 512MB RAM, 1,024x768 display

Wants 3GHz CPU, 1GB RAM, WDM capture device

79% PCF says... "Not as flexible as we'd like, but mightily efficient."



SILENT BUT DEADLY

Hitman

Blood Money

He's back, and this time he can shin up drainpipes. But can Agent 47 finally deliver the killer blow?

Price £30 Publisher Eidos Developer IO Interactive Web www.hitmanbloodmoney.com

This isn't right at all. This is supposed to be about a cool, emotion-free assassination; barely twitching an eyebrow as he throttles a flailing victim.

Instead, the training mission gives you a creepily in-depth reason for your first hit, adds an extremely personal rider to the basic "sic 'im" request, and then presents you with a slightly pathetic victim who bursts into tears and begs for forgiveness. It really did make us feel quite uncomfortable about the whole business of professional killing, the nature of guilt, and the ethics of retribution. But then we snapped out of

ON THE DVD

- >> In-game footage
- >> Screenshot gallery



BUY THIS IF YOU LIKE...

- >> Splinter Cell Chaos Theory Ubisoft
- >> GTA: San Andreas Rockstar
- >> Thief: Deadly Shadows Eidos

it, and splattered his brains over the wall with a claw hammer.

It's one of many slightly uncomfortable moments in *Blood Money*, but thankfully the moral compass stays mostly under wraps – because for the most part, this is a game that has a very unhealthy enthusiasm for killing people. Rig their barbeque to explode, drop a piano on them, push them out of a window – every mission is brimming

"Shooting cowering grannies doesn't make you feel very cool"



Everybody's heard, about the bird. It was probably pushing that bloke off of the balcony into the crowd that did it.

with myriad different, cinematic, and wholly satisfying routes to the grave.

It doesn't force you into any of them, either. Reprising the role of Codename 47 – a man devoid of pathos, expression and any trace of body hair – you're dropped in with a briefing document and your choice of high-tech weaponry, and left to make your own way. Doing so is easier than it has ever been: cupboards specifically designed for corpse concealment, wardrobes just standing there, begging to be lurked in, and guards that will shoo you away from



The paper reports which clues you left, and how close the Plod are to finding their man.

restricted areas rather than escalating straight to He's Coming Right For Us Mode, all allow plenty of time to uncover the various horribly inventive ways you can terminate your unsuspecting intended target.

NOTORIOUS B.A.L.D.

The levels are almost really convincing, too. Big, sprawling affairs stuffed with guards, tools, security cameras and passers-by, they're the closest the series has managed to feeling like a living, still-breathing-at-least-in-the-short-term world. A big part of this increase in realism is the new notoriety system. It's very simple, and, dare we say it, bears a passing resemblance to the 'Wanted' level in *Grand Theft Auto*. If you perform a completely clean hit and you leave nothing but some puzzled policemen scratching their heads in your wake, as shown in the newspaper coverage afterwards, getting spotted on your next 'job' will be difficult. Stride in and start

50 ways to leave your life insurance

How shall I kill thee? Let me count the ways



1 PIANO!

The spirit of Groucho Marx compels you! Better yet, your target is wearing a bird costume – situation comedy at its finest. Place your bomb on the winch early, then wait for her to come back.



2 SEX!

Not as horrifying as *Se7en*, which is probably a good thing: just decant a rhino horn into the chap's drink, enjoy some free voyeurism, and then nudge him off the balcony when he goes for a post-coital fag.



3 SPADE!

We were all set to take down this Louisiana gang member with faithful Ol' Throttly, but when you see him standing there with a spade behind him it's just too tempting to resist. Clang! Thud! Goodnight Vienna.

remoulding their brainpans with a fire extinguisher in view of a dozen horrified dinner guests, and you'll get your photo on the front page and a much harder time of it in the next mission, as everybody will be much quicker to recognise you. It's a neat idea, and limits the otherwise all-too-great temptation to go in shooting.

While earlier games punished discovery with death, here it's always possible to resort to extreme violence, and you can do so with as much flamboyance as the hits – alerted passers-by can be swiftly knocked out, and any guns grabbed; you can even use people as human shields. It's messy, but it can keep you in the game, and with luck you'll be able to leg it round the corner, bludgeon your way into a new uniform, and try again.

Such violence usually requires a lot of bribery at the end of each level to clean everything up – or you could just make sure all the witnesses are pushing up the daises – it's often worth slaying them anyway as they can have moments of heroism if there's a gun lying temptingly nearby. It's accurate, but uncomfortable: headshotting cowering grannies really doesn't make you feel like the cool killer the brochure suggested.

HAMMER TIME

It's a familiar sensation, because *Blood Money* is filled with such slightly uncomfortable details.

A shovel to the back of the head feels unpleasantly realistic and sprays blood across the wall, gut-shot victims die slowly and noisily, and we gave up on using hammers very quickly after watching how the claw is yanked out of the cranium ☹



Whoops. This is going to be expensive.



The Mardi Gras level is a highlight: you can get lost in the crowd, but it's spoiled by the fact that there's only about five character models.

Remember kids,
always dispose of
corpses safely.

UP CLOSE SCENE OF THE CRIME

Down the tubes

That scaffolding looks climbable. *Blood Money* is filled with things like this; you can spend ages wandering around trying doorknobs, and generally being nosy before you find the best way to perform the perfect hit.

Light fantastic

That's a big chandelier. Wouldn't it be terrible if, say, the winch blew and it plummeted to the ground, tragically crushing anybody underneath? We'd better make sure it's secure. Cough.

Stage fright

Victim #1 is an actor, being slain on-stage in an opera rehearsal. You could pick him off from here, but it's clearly more tempting to tamper with the props box and have one of the actors inadvertently do your dirty work for you.

Looking good

Somewhere in the basement there's a scenery chest that's going to start smelling really bad in a day or so. The clothes PCF removed from its occupant will get us into most places, though.

Out of the box

Victim #2 is getting a sneak preview in a closed box with four armed guards. You could burst in unannounced, offing him Abe Lincoln-style, but it'd be messy; far better to tempt him out into the hazard-littered auditorium.

high
score
PCFormat

afterwards. That it makes professional killing slightly creepy rather than outright gleeful is one of the game's great successes, and it makes it all the more irksome that it spoils things with a series of small but significant faults.

Plenty of them are technical. The same faces and character models

"For the most part, this game has a very healthy enthusiasm for killing"

reappear constantly, which looks daft even before you get to the Mardi Gras level and its clone army of crowd members. Maps too are filled with unopenable doors and unusable features.

Most significantly, there are worrying signs that everything is getting a bit too simple. While innovations like body dumping and drainpipe climbing are, of course, welcome additions to the *Hitman* experience, they aren't much use if the rest of the game is filled with NPCs who've been saddled with fairly poor AI. People facing walls next to conveniently open chest freezers are, after all, fairly easy to dispatch

when you're as toolled up as good old Agent 47. A great many of the adversaries you face are rather too on-message, too, to the extent that they'll keep patrolling even if the corpse they just carefully bagged up was their sole reason for being there.

Such moments are mood-killers, and show that there's still some refinement left before 47 really fulfils his potential. A bit more dev time wouldn't go amiss, either; a bare 13 missions is short change by anybody's standards. But while it's entirely possible to tear through it in a weekend, if you're in any way deserving of that back-of-the-neck barcode you'll want to go back and try at least some of the missions again – there are so many ways to finish hits you'll want to get them all perfect before you move on. It's not flawless, but it's the best the series has managed yet.

Jon Hicks

Needs 1.5GHz CPU, 512MB RAM, FX/9500 or higher

Wants 2.4GHz CPU, 1GB RAM, X800/6800 or higher

Net gaming None

Discuss pcformat.co.uk/mag/hitman

86% PCF says... "Gleeful and entertaining, but sloppy finishing holds it back."

Rednecks! Advantage: keen on gunfire. Disadvantage: distrust of the non-hairy.

The Easter Bunny's orders were clear: leave no Elf alive.

"So, is sir going anywhere nice this year?"

DRIVEN TO DISTRACTION

Evolution GT

Will this racer survive natural selection?

Price £30 Publisher Black Bean Games Developer Milestone Web www.evolutiongt.com

Milestone's union of racing and role-playing continues with *Evolution GT*. There's a smattering of licensed cars and Gabriele Tarquini, who is amusing enough to be considered a feature in himself.

Tarquini, currently playing his trade in the World Touring Car Championship, has been roped in to give advice to the

ON THE DVD

- >> In-game footage
- >> Screenshot gallery



BUY THIS IF YOU LIKE...

- >> Battle for Middle Earth 2 EA
- >> Dungeon Siege 2 Microsoft

budding racers of *Evo GT*. Unfortunately, not only are these 'tips' rubbish – we've never heard Schumi extolling the virtues of 'Tiger Effect' – the poor chap has been horribly overdubbed.

RACE ISSUES

Thanks to the Renderware engine, the game looks slick, but there is little sensation of speed and, until you reach the upper echelons, many of the cars simply aren't much fun to drive.

The other crucial aspect of a racing game, the AI, is borked – the fact that your opponents randomly lose control means that *Evo GT*'s start-line scrambles are characterised by more rampant swinging than an entire season of Louis Theroux documentaries. When you clatter off the circuit, it's infuriating, but after the first lap, when the field spreads out into a procession, you'll be thankful you saw any action at all.

Other problems include some horribly slapdash blurring effects in

The visual damage is limited to the odd cracked windscreen or wonky splitter.

replays and the fact that when the game decides you've been 'intimidated' by an opponent you actually go *blind*. In all PCF's years of motoring (or in Alec's case, weeks) we can honestly say this has never happened.

Driving games should create tension through the racing alone, rather than artificially enforcing it. We were patient with *SCAR (PCF177, 80%)*, but with so many 'CarPG' elements recycled for *Evo*, and the racing starting to smell a bit whiffy in the era of *TOCA 3* and *GT Legends*, we find this charmless effort difficult to recommend. **Mike Channell**

Needs 800MHz CPU, 256MB RAM, 64MB 3D card

Wants 1.2GHz CPU, 512MB RAM, 128MB 3D card

Net gaming None (Split screen multiplayer)

59% **PCF says...** "Reasonably pretty, but the sheen fails to conceal the tedium."



The mountainous Corsica track at sunset is one of the more stunning locales.

QUIRKY MMO REDUX

Guild Wars Factions

Where there can be an 'I' in team, and PvP in five minutes

Price £30 Publisher NCSoft Web www.guildwars.com

No monthly fees. No endless grinding. Fully instanced areas, instead of the usual free-for-all. *Guild Wars* eschewed and spat out the rules, turning heads on release.

Factions is equally quirky – it's a standalone expansion pack. Add it onto the original game, the *Prophecies*

BUY THIS IF YOU LIKE...

- >> Guild Wars NCSoft
- >> World of Warcraft Blizzard
- >> Oblivion Take-Two

campaign, and your characters can swan between both sets of content – otherwise, you can grab the box off the shelf and play exclusively on the new continent, as one of the old character classes, or newcomers the spirit-summoning Ritualists and Assassins.

FACTIONS' FRACTIONS

There are two modes – role-playing and PvP. Role-playing is the standard MMO portion, with decent quests. The engine still lacks weight, but the design is much smoother – for instance, you now get a party of four NPC henchmen, and the opening levels offer a difficulty curve, instead of the previous brick wall.

PvP is where the action is, though. Not only are you handed almost any maxed-out character you want right at the start, you can jump into a deathmatch full of zappy powers. *Factions'* design is tighter than *Prophecies*, and the extra classes add a good chunk of tactical flexibility. And it's especially fun if you've never



With two sets of skills, and only a few slots, you have to choose your abilities wisely.

managed to reach the PvP stage in other MMOs we could mention...

Guild Wars remains an interesting MMO on almost every level. There's certainly enough here keep existing players busy, and it's easy to slip into afresh. It's no *WoW*-beater in terms of content, but the lack of a monthly fee, and the greatly enhanced pace certainly keep it flying high against the game's better known rivals. **Richard Cobbett**

Needs 1GHz CPU, 512MB RAM, 64MB 3D card, broadband

Wants 2GHz CPU, 1GB RAM, 128MB 3D card

Net gaming Massively multiplayer only

81% **PCF says...** "Solid, and cheap enough to warrant dipping into instead of devoting your life to."



Guild Wars serves up its quests for you and your party alone.

"THE NEXT-GENERATION CONSOLES CAN'T HANDLE OUR GAME."

Cevat Yerli, CEO of Crytek, creators of Crysis

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FIRST REVIEW

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Gerald's red-sock-in-the-wash mishap earned ridicule from fellow gladiators.



Military dominion is based on overwhelming odds rather than *Total War*-style strategy.



The thrilling break of Persian naval lines.



Forts are more stylish in skirmish mode.

SWORDS AND SANDALS

Rise and Fall Civilisations at War

With the death of Stainless Steel Studios we didn't expect to see it this side of *Duke Nukem Forever*...

Price £35 Publisher Midway Developer In-house Web www.riseandfallgame.com

The premise of *R&F* was to produce a game that took the best bits of that old fanboy favourite, the real-time strategy genre, and added enough entirely unique elements to mark it out from the herd. After all, innovation is important, but you still have to allow for player comfort. Oh, and inspiring scary levels of dedication in a new game's fanbase is also useful.

To this end, *R&F* has all the standard RTS trappings proliferated by titles like *Command & Conquer* and the original *Warcraft* games, with resource

ON THE DVD

- >> In-game footage
- >> Screenshot gallery

BUY THIS IF YOU LIKE...

- >> **Command & Conquer Generals**
Electronic Arts
- >> **Empire Earth II**
Vivendi
- >> **Dynasty Warriors 4 Hyper**
Konami

collection and map conquest sitting squarely at the heart of everything you do. The innovation comes with your hero, and his special skills. Each of the four factions – Roman, Greek, Egyptian and Persian – has two heroes, from Julius Caesar to Nebucadnezzar. The 'hero' idea itself is not the innovation – many other games have had historical champions before – it's the ability to control the character and directly impact the outcome of the battles.

ANTI-HERO

Once your champion has advanced in level and has acquired the requisite stamina you can drop into the third-person Hero Mode. What was a well executed RTS suddenly turns into *Dynasty Warriors 47X Alpha Plus Prime* and promptly falls apart. In top-down mode the game looks fine, and zooming in means the cracks start to appear. The clipping doesn't really function up close and there seem to be a lot of invisible barriers that aren't obvious when the computer is in control of path finding.

Used sparingly, the Hero Mode works excellently. Leading your troops into battle from the front with basic unit

control provides a welcome break from the slow pace of building and harvesting. In the standard campaigns, though, you can spend entire scenarios in your champion's sandals and that's when the relentless hacking and slashing chokes.

While we applaud the variation throughout the campaigns, it still seems superficial; the RTS elements aren't given enough depth and the third-person action feels stilted. RTS fans are unlikely to want to spend the time required as your hero, and action fans would generally balk at any kind of RTS.

There also seems little reward for completing scenarios apart from some grainy FMV. Missions end abruptly and, all told, *Rise and Fall* leaves you feeling just a little unsatisfied. **Dave James**

Needs 1.5GHz CPU, 512MB RAM, 64MB DX9c 3D card

Wants 2.8GHz CPU, 1GB RAM, 128MB DX9c 3D card

Net gaming LAN or internet; up to eight players

Discuss pcformat.co.uk/mag/riseandfall

74% **PCF says...** "Ignore the lumpy campaign and you have an RTS with some big ideas."

Naval gazing

A shining beacon in the RTS ocean



One of the best features is the naval combat, while it's essentially still standard RTS gameplay, fighting on the high seas adds that little bit extra as you pepper your foe with a volley of arrows before boarding or, alternatively, simply ramming them back to Davy Jones' locker.



Turn enemies into charred flotsam with a well-placed torpedo.

PLENTY OF BALLAST

SCS Dangerous Waters

Run silent, run deep in the most authentic naval warfare simulator this side of San Diego US Naval base

Price £30 Publisher Black Bean Developer Sonalysts Combat Systems Web www.scs-dangerouswaters.com

Being stuck 600 feet underwater in a giant metal phallus is possibly not everyone's idea of a good time. On the other hand, if you've ever read a military thriller by Tom Clancy or Patrick Robinson and fallen in love with the idea of controlling one of the world's deadliest weapons platforms, or indeed donned the blue uniform yourself, then *Dangerous Waters* surely represents the last word in PC strategy gaming.

Be warned, though, this game is no small undertaking. Mind-bogglingly technical and thoroughly comprehensive (developer Sonalysts designed it as a training tool for the US Navy), the accompanying PDF manual is 52MB in file size and stretches to a whopping 558 pages. Ouch.

Once you've waded through the basics, on offer for the single player is the chance to drive 11 different submarine warfare platforms in three main game modes, Campaign, Mission and Quick Mission (there's also a Mission Editor). Los Angeles and Seawolf Class subs plus a guided missile frigate, MH-60 chopper and P-3 Orion turboprop represent the US Navy, while Russian and Chinese forces

comprise Kilo and Akula Class subs. Still with us? Excellent. Rig ship for dive, take her down.

DIVE, DIVE, DIVE

There's a variety of missions on offer in both main game modes, including intelligence gathering, sub hunting, evasion, special forces insertion and full blown naval battles, and the Mission and Quick Mission modes gives you an enormous scope of options. These range from which side you play as to where on the planet you want to fight. Whatever

Lurk on your LAN

Online depthcharge-dodging action



ON THE DVD

- >> In-game footage
- >> Playable demo
- >> Screenshot gallery

BUY THIS IF YOU LIKE...

- >> *Silent Hunter III*
Ubisoft
- >> *688 Hunter Killer*
Sonalysts
- >> *Jane's Fleet Command*
Sonalysts

Dangerous Waters really comes into its own when you down scope and head online. Up to 30 people can play in the multiplayer modes and you can enlist together on one platform, each crewman assigned a station to look after with orders passed by voice command. Excellent.



The frigate's deck-mounted cannon is reassuringly devastating in all weathers.



A Russian sub lurks on the Californian coast. The naïve, pressurised fools.



Preparation is key – without the right weapons, you're tinned shark food.

mission or platform you choose, once you're at the controls there's a terrifying amount of stuff to think about.

Every aspect of undersea life bar scrubbing down the inside of the reactor is here, but fortunately you can assign an AI crewman to most tasks. Your officers keep you informed with constant text and voice reports – and you'll need all of them. Even using the game's auto-crew functions, it'll take a while before you've got a handle on everything (unless you actually are a submariner). Once you've licked it, though, the game's a joy, and a real challenge for your brain. It is a true simulation, though, and hence is a little dry and lacking in the character and personal touch of the *Silent Hunter* series.

Nick Ellis

Needs 550MHz CPU, 128MB RAM, 32MB 3D card

Wants 1GHz CPU, 256MB RAM, 64MB 3D card

Net gaming Up to 30 players online or LAN

Discuss pcformat.co.uk/mag/waters

84% PCF says... "Easily the most engrossing and authentic sub sim out there."



Next week on *SiN Episodes*: Jessica finds out she's an orphan, and Blade wonders if sleeping with JC was a mistake.



The chaingunners are the game's toughest baddies, and attack in laughable numbers.



Men. Men go boom. Then there are some more men. They also go boom.



It's a Vortigaunt, but with a different skin! Where do they get their ideas, eh?

CRAPSHOOT

SiN Episodes 1: Emergence

Often carnal, regularly deadly, but by no means original – the bastard child of *Half-Life 2* is one giant leap backwards

Price \$24 (around £13) **Publisher** Valve **Developer** Ritual **Web** www.sinepisodes.com

Here's a game that poses a dilemma. What do you want from a first-person shooter? While PCFormat can provide you with an informed opinion based on extensive experience of SiN's ancestors and contemporaries (and, if you're lucky, a few boobies gags too), the final decision rests on what manner of games player you are. So, please fill in the following short questionnaire before you proceed.

1 How do you feel about shooting identical men over and over again,

ON THE DVD

>> Screenshot gallery

BUY THIS IF YOU LIKE...

- >> *Call Of Duty 2*
Activision
- >> *Lula 3D*
CDV
- >> *Shootin' cans off the roof of your trailer*
Redneck Studios



without the need to approach any part of a game tactically at any point?

- a) Great! I'd do it all the time if I didn't have to do all those hours of pesky community service.
- b) S'OK.
- c) Fun for about 20 minutes, then incredibly tedious.

2 Do you like using your brain while playing games?

- a) No! Death, death, deeeeeaaaaath!
- b) S'OK.
- c) It's essential to my enjoyment of any and all videogames, regardless of platform or genre.

3 Doors in videogames should be...

- a) As plentiful as possible, but almost always permanently sealed, even if I fire enough high incendiaries to level Belgium at them.
- b) Dunno.
- c) Only included when necessary to level structure or atmosphere, and only

ever locked if they can be opened by an item or puzzle.

4 Boobies are...

- a) The best thing in the world ever, especially when they're attached to a distractingly angular computer-generated character with crap textures, and a penchant for unsubtle innuendo.
- b) Lumps of pendulous fat.
- c) Admittedly lovely, but they begin to look ridiculous and inappropriate when heavily used in a game.

YOUR SCORE...

Mostly As – You're probably an unabashed wrestling fan.

You should buy SiN right now – it's going to be the best thing that ever happened to you since *Quake IV* and until *Timeshift*.

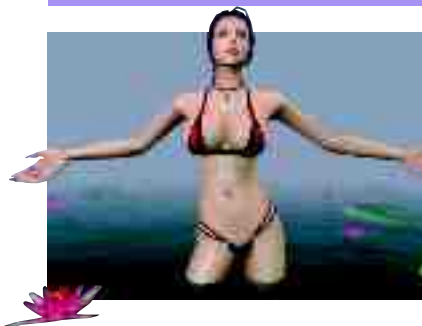
Mostly Bs – You're reading this magazine in a dentist's waiting room, aren't you?

Mostly Cs – You'll find SiN to be a damning example of just about everything that's wrong with modern mainstream videogames. Go and play



OMG! PrOn!

Guns don't lure meatheads, boobies do



SiN was marketed on pics of Elexis Sinclair, and the game's not grown up yet – its first shot is of Elexis' perma-quivering cleavage, and later a close-up of her glistening buttocks, while your sidekick Jessica constantly has her thong straps on display. It is, at least, kind of funny.



Sloooooow mooooooiooooo allows you to see the blood, bile and brains *really* splatter.



See! Identical men flail a bit in perfect synchronisation before burning to death!

System Shock 2 again – you'll feel a great deal better.

Depending on our mood for the day, PCF flits between As and Cs. In general, we like our shooters with some vaguely cerebral challenges and at least a whiff of innovation. *Half-Life 2* is a pertinent example, but we're also rather partial to, say, a nice *Call of Duty* session – shoot lots of men, move on, shoot lots of men, rinse and repeat. It's a fun day in. But the trouble with this first chunk of the second *SiN* game is that at no point in its four forgettable hours is that tried and tested formula ever satisfying. There's nothing to it except shooting the same men again and again – we don't inherently object to that, but there's no flow or finesse to it here. Whereas *Call of Duty 1* or *2* is a fluid marathon set to a regularly changing backdrop, never pausing for breath long enough to reveal its underlying mechanic of scripted event trigger points, *SiN* is a stuttering, clumsy thing. Kill all men in the room, then either bumble around frustratedly for a few minutes trying to find which one of the dozens of doors will open, or sit through a lengthy, trite NPC speech which magically unlocks a door when it ends. And repeat.

HALF HALF-LIFE

The only diversity to be had is the introduction of probably the most generic mutant-zombie-alien things in any game ever (which punch you instead of shoot you); a single moment where you have to move a crate to access a high ledge; a fairly useless *F.E.A.R.*-alike semi-slow-mo that temporarily happens if you shoot certain type of barrel; and occasionally getting lost because all the corridors look the same. Even *Doom 3*



Alyx, sorry, Jessica, Gordon Freeman, er, John Blade's computer-controlled sidekick. OMG SO HOT LOL.

"You get to shoot a lot of men, who die very quickly, and feel like a badass"

did it better – it may have been similarly stupid and repetitive, but at least it had palpable atmosphere.

It's not all woeful, not by a long shot. This is essentially a high-budget *Half-Life 2* mod (to the point where every single foe in the game is looks suspiciously like a reskin of an *HL2* character), so that game's gunplay and world fulla physics remain. Since every room is stacked high with explosive objects, fire off a couple of rounds or, better still, a grenade, and you'll

The look of bewildered panic on Jessica's face is one players will soon share, we'd wager.



The next episode

A potential problem for episodic gaming



Emergence is the first of nine *SiN* instalments. This episode only includes three guns and gets incredibly hard in its final third. So will the next start at the same difficulty level and grow more so (aaargh), or will it reset to just a pistol and more moronic foes? We know that it involves mutants...

be treated to a sort of gruesome funhouse of bloodied corpses ricocheting off walls and boxes scattering everywhere.

The first 90 minutes or so of the game (once you're past the cliché-ridden, unskippable and rather porry 15 minute cutscene) is fairly entertaining for this reason – you get to shoot a lot of men who die quickly, and feel like a badass. Then it gets really tedious for a while. And then it gets quickload-frenzy hard. There's supposed to be auto-difficulty balancing, but if it's doing anything, it doesn't show. The waves of men never

stop, health and ammo becomes less plentiful, and every step forward you take activates some more men from the ceiling, a locked side room or simply out of thin air. You can't quite tell for sure because there's too many other identical men standing in the way.

If you are a mostly As type of guy, chances are none of this will bother you in the slightest – there is a very big market for first-person games that involve shooting people in the head. But we still believe the PC is the thinking gamer's platform, and by that standard this is a sin (sorry).

Alec Meer

Needs 1.2GHz CPU, 256MB RAM, 64MB 3D card

Wants 2.4GHz CPU, 512MB RAM, 128MB 3D card

Net gaming None

Discuss pcformat.co.uk/mag/sinisodes

64% PCF says... "A bad trip down memory lane – this is the FPS circa 1996 incarnate."



For a nine-stone cryptologist, Sophie can certainly handle herself in a fight.



Running round grabbing people, shouting "where's the Grail?" yielded poor results.



It may be a console port, but some sections of the game look pretty impressive.

ALL YOU NEED IS LOUVRE

The Da Vinci Code

In which, unfortunately, you don't get to skulk about as a homicidal albino monk with spikes in his leg

Price £30 Publisher 2K Games Developer The Collective Web 2kgames.com/davincicode



For better or worse, the *Da Vinci Code* happened, OK? We know that the majority of people either consider it an inventive work of pulp fiction, or feel the acrid rise of bile in their throat every time it is mentioned. The point is, whether you love it or loathe it, this was never going to be a cash cow that the games industry would allow to trundle by.

The game is a third-person puzzler cum art-appreciate-'em-up (yet another entry in *PCFormat's* big book of genres), and puts you in the middle of a desperate race across the globe to discover... actually, we're pretty sure you know this already. What you won't know, however, is that while we were bracing ourselves for a smoking train wreck of a cash-in, as you sink your teeth into the game it becomes clear that this is an engaging and satisfying adventure.

Unfortunately, the first level of *The Da Vinci Code*, designed to ease the player into both the story and the various styles of play, does its best to convince you otherwise. Long cutscenes, a paucity of save points and limited interaction characterise the Louvre section, and it's not until you reach Saint

Sulpice church that the game reveals its adventuring credentials – this is a return to the glory days of notebook-beside-keyboard gaming.

HOLY APPROPRIATE

It helps that the various real life locales are lovingly recreated, with smart texture and lighting work deftly hopping over the low-poly limitations of a multi-format release. Primarily though, the warm glow comes from solving the puzzles.

The game isn't without flaws, though. Navigating the menus is a chore

BUY THIS IF YOU LIKE...

- >> **Broken Sword:**
The Sleeping Dragon
THQ
- >> **Myst**
PXL Computers
- >> **Dreamfall**
Empire

thanks to a confusing layout – a shame considering the neat encyclopaedia of historical trivia that they hide. The 'Simon says' combat, while adding much-needed tension, can also be frustrating, particularly when two enemies jump you at once. Luckily these sections can often be sidestepped with the game's reasonably competent stealth mode.

In a genre where so many games are a disappointment, it's great to see a potential disaster turn into something of a gem. *The Da Vinci Code* panders to consoles, but it remains a tidy combination of source material appreciation and imaginative digression that might appeal to those repulsed by the international mania. **IlenahC ekiM**

It's a cracker Sudoku for wordy types



While for some of the puzzles, the novel could be used as a strategy guide, the Collective has wisely included a few of its own. Watching as a substitution cipher appears before your eyes is rewarding, and the optional hints are, for the most part, gentle nudges rather than full body checks.

Needs 1.8Ghz CPU, 512MB RAM, 64MB 3D card

Wants 2.4Ghz CPU, 1GB RAM, 128MB 3D card

Net gaming None

Discuss pcformat.co.uk/mag/davinci

79%

PCF says... "Ignore the media furore, and enjoy this as a standalone puzzler."



Humans in *Might & Magic* are way better than real life humans.



The voice acting of the Inferno demons is a bit light-hearted and off-putting.



Heroes with large armies will leave race-specific trails as they tramp around.



There's something wussy about amassing an army, only to play hopscotch with it.

V FOR VICTORY

Heroes of Might & Magic V

The access-all-areas fantasy strategy game is back again with a wonderful facelift, but its problems are more than skin deep

Price £30 **Publisher** Ubisoft **Developer** Nival Interactive **Web** www.mightandmagicgame.com

high
score
PCFormat

As game concepts go, *Heroes of Might & Magic* is just cheating. It steals the best features of several genres and brings them together in a fantasy world that's so full of clichés as to be charming.

At the forefront of the game are the heroes under the control of you and your opponents, who level up as you play, in that manner that's so rewarding in MMOs and RPGs. The heroes lead and support armies that do the fighting, which occurs in the same way as turn-based strategy games. The armies are

ON THE DVD

- >> Playable demo
- >> Screenshot gallery
- >> In-game footage

BUY THIS IF YOU LIKE...

- >> **Battle for Middle Earth 2**
EA
- >> **Dungeon Siege 2**
Microsoft
- >> **Rome: Total War**
Activision



The problem: waiting for opponents to finish their turn in online game. **The solution:** let waiting players have 'ghost' characters they can use to explore the level and generally cause mischief. **NPC armies can be possessed, for example, and resources stolen from under other players' noses.**

recruited from cities under your control, and since developing hamlets into impregnable cities is always fun, that features too. Regrettably little's changed in the series since the original *Heroes of Might & Magic* was released 11 years ago, but while time may have withered this game model, it's still palatable.

NOW THAT'S MAGIC

When Nival Interactive started its work, it must have been aware that the essence of the original game was gradually disappearing with each sequel, and its aim of recapturing this is evident as soon as you start playing.

From the flashy intro sequence and menu to the atmospheric music, the game oozes almost as much class as a game about humans fighting demons, fighting elves fighting the undead, fighting troglodytes fighting magicians can possibly ooze. It's all consistently lovely looking too, with cute animated creatures and wonderfully realised cities.

The cutscenes are the only weak point, frequently consisting of heroes with some form of spellcasting Tourette's volleying off nonsensical twinkly effects as their models stand next to each other

and you hear (but don't see) them speak.

This isn't much of a loss, though, since the plot's neither the focus of the game, nor particularly good. There is a lot of it though, and over the game's singleplayer campaigns (one for each of the six races) you'll meet dozens of characters that it's hard to see as anything more than bots. The missions are gripping though, and provide a chance to get attached to a single hero and watch them grow from a weakling to a legend as you play.

Multiplayer has also been expanded: you can have battles without any of the larger-scale RTS trappings, and big games now have the excellent Ghost Mode (see boxout), but that that's the only real innovation here. **Quintin Smith**

Needs 1.5GHz CPU 512MB RAM, 128MB 3D card

Wants 3GHz CPU 1GB RAM, 256MB 3D card

Net gaming Up to six players

Discuss pcformat.co.uk/mag/homm

82% **PCF says...** "A good sequel that's faithful to its forebears in all the right places."

Ghost recon

Who you gonna call?



COMICAL CAPER

X-Men The Official Game

We dare not wonder what the unofficial game is like...

Price £30 Publisher Activision Developer Z-Axis Games Web www.activision.com

Somebody put real love into this. Hidden away behind the phoned-in star performances, awful voice-alikes (though Magneto is voiced by Dwight 'Howlin' Mad Murdock' Schultz), there's a slight whiff of pride. Trouble is, there's also concept art

BUY THIS IF YOU LIKE...

>> **Spider-Man 2**

Activision

>> **X-Men Legends 2**

Activision

>> **City of Heroes**

NCSoft

that passes for cutscenes (presumably because the movie was made in such a hurry that it was impossible to get clips) and the unmistakable reek of churned-out-for-consoles syndrome.

CUMMING HOME

Said pride keeps its head down during Wolverine's levels, which are all standard

beat 'em-up nonsense.

It's not in Iceman's levels either, they're a clumsy mix of sky-racing and shooting. But it is in the Nightcrawler levels. The teleporting elf plays a major part, despite having

been written out of *X-Men: The Last Stand*. The character's departure is explained, but it still feels like film and game aren't on the same page.

Nevertheless, it's Kurt Wagner's chance to shine, his teleportation not

"It allows for fluid acrobatics and a sense of invulnerability"



There's no *X-Men 3* content to speak of in here, so old battles are revisited instead.



Hammer the teleport button and you'll never be around long enough to suffer a hit.

limited to an energy bar, instead a constantly accessible power allowing for fluid acrobatics and, so long as you can keep up the frantic controller tapdance, a sense of invulnerability. It's a near-perfect recreation of the character, only let down by the banal level design that blights the game throughout (and Alan Cumming's awful German accent). So, signs that, given resources, and no pressure to coincide with a movie, there could one day be a great *X-Men* game. This isn't, of course, it. **Alec Meer**

Needs 1.2GHz CPU, 256MB RAM, 64MB 3D card

Wants 2GHz CPU, 512MB RAM, 128MB 3D card

Net gaming None

48% **PCF says...** "A solo Nightcrawler game could rock, but this team effort is cash-in gibberish."

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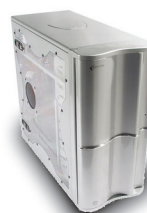
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Junkie scum double as excellent noticeboards.



It looks like Santa needs another dose of the Tazer.



Photoshop work alone won't save this man from a lifetime of ridicule.



This tender scene is crying out for interruption from a fire axe.

PIPEMANIA

Condemned Criminal Origins

Fans of *CSI*, claustrophobia and dark, disused buildings will be right at home here...

Price £30 **Publisher** Sega **Developer** Monolith Productions **Web** www.condemnedthegame.com

You know that feeling when you boot up a game with no idea what to expect, and your mind fills up with all possibilities that it could offer? Exciting, isn't it? It's a shame, then, that 99% of the time the game turns out not to be as great as you hoped.

Enter *Condemned: Criminal Origins*. Starting off pottering around a crime scene, tooled up some amazing with technical gubbins, the impression is that this could be the game all *CSI* fans have been conducting a fingertip search for. Taking on different cases, gathering clues, tracking down your suspects before taking them down would be a thoroughly satisfying way to spend a gaming session. Sadly it's not long before you have to put away your notebook (well, smartphone) and vials and get embroiled in a very dark, very grainy and very on rails first-person perp hunt. *Hitman* this ain't.

Once you've got over the initial disappointment and adjusted your expectations accordingly, there's a certain atmospheric charm that will make your excitement rise once more. Again, hopes for an entertaining gaming experience are quickly dashed as it

dawns on you that the entire game is just going to be an identikit corridor battle against derelict zomboids with assorted bits of piping.

GREAT EXPECTATIONS

The visual style is reminiscent of the ancient swear-fest *Kingpin*, and shares its mostly mêlée-based combat. The actual gameplay itself runs more like relentless scrolling beat 'em-ups such as *Final Fight*. Plodding on through the interminably dark levels, with only the centre of the scene visible most of the

ON THE DVD

- >> Playable demo
- >> Screenshot gallery



BUY THIS IF YOU LIKE...

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Interplay
- >> **Final Fight**
Capcom
- >> **The Suffering: Ties That Bind**
Midway

Totally tubular

Is one pipe as good as another?



Sometimes life decisions are tough, particularly when weighing up one piece of blunt weaponry against another. Before you rip off a bit of plumbing a pop-up tells you how your current selection compares in terms of Damage, Speed, Block and Reach. Ah, realism.

time begins to grind the nerves fairly quickly. And you don't even get to mash up a car with baseball bats afterwards.

An opportunity's been missed with the forensic tools. You only get to use cool gadgets when there's a note on the screen telling you to and you can't store them for later either, your weapons disappearing at the end of a chapter. The AI is also very weak, and is only triggered when you're within a certain distance of them, returning to their dormant state if you back away.

We can't help but feel strangely misled. All these cool forensic toys are a waste of time when you spend most of the game wandering around in the dark looking to club something with a bit of someone's central heating. **Dave James**

Needs 2GHz CPU, 512MB RAM, 128MB 3D card

Wants 2.4GHz CPU, 1GB RAM, 256MB 3D card

Net gaming None

Discuss pcformat.co.uk/mag/condemned

67%

PCF says... "Great sound and visuals, but unremittingly repetitive gameplay."

LITTLE PEOPLE

Back To Gaya

That's pronounced Gaia, as in Earth

Price £20 Publisher Nobilis Web www.backtogaya-thegame.de

Based on an upcoming feature by the *Bug's Life* writers, *Back to Gaya* is an old school 3D platformer. The premise is that the evil professor N. Icely – friendly name for a sociopath – has stolen a magical wotsit and transported the two biggest heroes in Gaya, that's you Zino and your buddy Boo, to Earth.

Imagine what it would be like if Lara Croft was a Borrower and

spent her time doing gymnastics around skid row and you've got pretty good idea of what's in store. You have to hop, skip and jump your way around oversize levels that wouldn't be out of place in a Micro Machines game.

It's a fairly simple affair and the puzzles are standard pull lever, push button style, but there is still enough charm to make it fun and no doubt when the film arrives

there will be much tugging at the coat sleeve from the little ones wanting to play it.



Battle spiders in a junkie squat.

Needs 1.2GHz CPU, 256MB RAM, 64MB 3D card

Wants 2GHz CPU, 512MB RAM, 128MB 3D card

Net gaming None

70% PCF says... "Charming and enjoyable platformer for the young 'uns."

JUST PLANE BORING

Battle of Europe

Spitfires have never looked this ugly...

Price \$20 (download only) Publisher Black Bean Web www.blackbeangames.com

Hmmm. It seems this game wants to be *Blazing Angels* or, better yet, *Pacific Heroes*. It's unashamedly an arcade shooter, pitting you in action-orientated dogfights against the Luftwaffe, defending Blighty against all odds without a hint of simulation to slow the pace. It's playable, though broken in several places. We had to use a third party app called Joy2Key to get our

standard flight joystick's rudder working, for example.

BoE can occasionally be pretty (easy shader effects like specular lighting are ten-a-penny these days) but it often looks worse than the inside of your flight suit after Jerry's had a shot at your undercarriage. Largely, the amusement is limited to a couple of laughs at the expense of the badly translated WWII banter. If you

want this kind of arcade-with-powerups dogfighting, go take a look at *Pacific Fighter* instead.



Let me put out that fire with my gun.

Needs 1GHz CPU, 512MB RAM, Dx8 3D card

Wants 1.4GHz, 1GB RAM

Net gaming None

59% PCF says... "Repetitive action and a poor engine ground this flyboy."

Also out

By Dave James
GAMING ROUND-UP

Utopia City

Price £30 Publisher Reef
Web www.utopiareal.com

There really isn't any excuse for games like this any more. We know that Reef is into its retro gaming from looking at *Shadowgrounds* in PCF187. That at least had reasonable gameplay and effective graphics, but *Utopia City* has neither. There's so much wrong here, from the Matrix rip-off storyline and painful attempts at imitating *Deus Ex*, to the lack of textures and dull levels. Even when *Deus Ex* was first released it looked far better than this.

Needs 733MHz CPU, 256MB RAM, 64MB 3D card

Wants 2.4GHz CPU, 1GB RAM, 128MB 3D card

Net gaming None

21% PCF says... "Unnecessary. Just take the blue pill."



Alliance Future Combat

Price £25 Publisher G2 Games
Web www.alliancefuturecombat.com

In keeping with the theme of generic gaming here comes the decidedly average *Alliance: FC*. The usual cheap and cheerless storyline comes straight out of the mouth of Cliché-o-tron, the hitherto unknown, plot-creating robot that seems to supply most RTS games. Yanks and terrorists. Great. Point and click, rinse and repeat and that's about the size of it. So is there much point in playing it at all? No.

Needs 1.6GHz CPU, 512MB RAM, 64MB 3D card

Wants 2GHz CPU, 1GB RAM, 128MB 3D card

Net gaming None

55% PCF says... "Another dreary RTS to avoid. Ho hum."

Liquidator
Welcome To Hell

Price £25 Publisher Reef
Web www.liquidator2.com

Fantastic. Exactly what the world needs, another repetitive first person shooter. It's the sequel to what was an out-dated *Doom* clone way back in 1997, and from the looks of things they have simply ported the gameplay across. It seems unreasonable to expect gamers to part with so much cash when there's roughly a bajillion budget releases that could wipe the floor with this offering.

Needs 1.5GHz CPU, 512MB RAM, 64MB 3D card

Wants 2GHz CPU, 1GB RAM, 128MB 3D card

Net gaming None

43% PCF says... "At least it's faithful to the original..."

Strategic Command
2: Blitzkrieg

Price \$45 Publisher Battlefront.
com Web www.battlefront.com

If you like the strategic thinking that comes with WWII table-top gaming, but balk at the very notion of fun, rolling dice or lead figurines then *Strategic Command 2* could be for you. Surely it has to be for someone. According to the manual, it's 'more than another grand strategy game'. We think we may well have spotted a typo there – it should probably read 'another bland strategy game'.

Needs 1GHz CPU, 256MB RAM, 32MB 3D card

Wants 1.5GHz CPU, 512MB RAM, 64MB 3D card

Net gaming None

41% PCF says... "More boring than watching gravel."



The ULTIMATE guide to graphics

High Dynamic Range lighting, powerful pixel shaders and enough normal mapping to make your nose bleed. But you'll need a very powerful system to make the most of it.

Oblivion is the finest game of recent times, and might be the most demanding game ever. Jeremy Laird benchmarked the bejesus out of it to provide a definitive guide to the right GPUs for you

Forget recent gaming heavyweights such as *Call of Duty 2* and *F.E.A.R.* And make no mention of such antediluvian anachronisms as *Doom 3* and *Half-Life 2*. When it comes to beating your PC to within 90nm of its life with gaming performance, nothing comes close to *Elder Scrolls IV: Oblivion*. It's something special.

Which is both good and bad news for gaming enthusiasts. On the upside, *Oblivion* delivers easily the most immersive and compelling singleplayer experience in town. It's a game that effortlessly delivers the jump-in-and-play accessibility, engaging central storyline and polished combat of the best first-person shooters such as *Half-Life 2*. But to that it adds a freeform and breathtakingly detailed universe, realised on a truly monstrous scale, as well as the huge breadth of character creation and development options that are the mark of the very finest RPG titles. After a serious dearth of quality games of late, it's nothing short of a spectacular return to form for PC

gaming and the one title you simply must own in 2006.

And that's just the gameplay. Graphically speaking, *Oblivion* is simply the daddy. Granted, it's not quite perfect – both the character models and the texture detail are occasionally rather ropey. But at its best, *Oblivion* boasts arguably the most stunning visuals ever seen on the PC, or any other consumer-class platform for that matter. It's

absolutely packed to bursting with every high-end visual effect you can think of, including normal mapping, specular highlighting and HDR lighting. What's more, *Oblivion* also sports more geometric detail, detailed foliage and long-range draw distances than you can shake an ultra-threaded, 48-unit pixel shader array at. In short, *Oblivion* is the ultimate DirectX 9 showbiz spectacular. Until the arrival of

Windows Vista and with it DirectX 10 – at the beginning of 2007 should you care to believe Microsoft's latest claims – this is as good as PC gaming gets.

LIGHT FANTASTIC

Whatever you do, don't assume that you'll be skipping merrily around Cyrodiil at a silky smooth 60 frames per second and surrounded by acres of finely anti-aliased grass swaying in a light afternoon breeze and bathed in glorious HDR-rendered sunlight. As you'll discover over the next six pages, even the latest and most painfully powerful PC hardware struggles to cope with the brutal graphical onslaught that is *Oblivion*. Try this for a taster: even at pedestrian resolutions such as 1,280x1,024, the fastest single video card on the planet – that'll be ATI's beastly Radeon X1900 XTX – frankly buckles under the strain. It achieves an average of just 29 frames per second out in the densely wooded Great Forest, with many of the image quality options merely set to medium. But it's the

Going native

Oblivion poses a panel problem

Running at native resolution. As every good geek knows, that's absolutely crucial for getting the best out of any LCD display. In simple terms, that's because unlike traditional glass-tube CRT displays, LCD panels have a fixed number of pixels. While it is possible to display an image composed of fewer pixels than this fixed or "native" array of pixels, it must be interpolated or stretched, leading to a somewhat blurry, washed-out appearance. But here's the rub – if you're the proud owner of a high

resolution LCD panel, that's something you may have to live with thanks to the incredible demands Oblivion puts on your graphics card. Especially if you don't own either of the newest big guns from ATI and NVIDIA. Of course, the other choice is to stick with your monitor's native resolution and wind many of the in-game image quality right down. Either way, your image quality won't exactly be money.



owners of LCD monitors – and that's the vast majority of us these days – who have perhaps the most worrying adjustment to make. *Oblivion* is so chronically demanding that you may be forced to do the unthinkable: run your panel at below native resolution. Scary stuff indeed.

ALL IS NOT LOST

But don't be too terrified. *Oblivion*'s saving grace is a highly configurable 3D engine. Almost every detail, from lighting, shadow and texture quality to terrain, foliage and specular highlighting draw distances can be tweaked in favour of either visual

doing justice to the incredible visual fidelity *Oblivion* has to offer.

Which makes it perfect for helping you decide which graphics card is right for you, and what image compromises you're willing to make in any game. We've collared a crate-load of graphics cards and CPUs, from the bargain-tastic to the pricey, and put them through the wringer, *Oblivion*-style. Along with the usual comparative 3D chipset and processor performance comparisons, we've given other potentially crucial configuration conundrums, including system and video memory availability, and

"Don't assume that you'll be skipping merrily through acres of anti-aliased grass, bathed in glorious HDR-rendered sunlight"

punch or pure speed. Courtesy of a few judicious adjustments, even modest hardware setups can deliver an entirely acceptable level of graphics performance, with very little slowdown, while simultaneously

address the single versus dual-core question. How many frames per second will enabling HDR cost you on entry level, mid-range and high performance graphics chipsets? Just what is it that causes rendering



Oblivion's varied gaming environment makes it extremely tricky to achieve the perfect setup. Performance varies considerably between the Great Forest and underground levels, for example.

performance to plunge so dramatically when you move from an enclosed area to the expanses of the great outdoors of *Oblivion*? Do you have any hope of running such a demanding game at the native resolution of your LCD panel? Does the triple-wide pixel shader architecture of ATI's X1600 and X1900 GPUs deliver a crucial

performance boost? Is ATI's unique ability to combine HDR rendering and anti-aliasing pure gimmickery or a killer feature. And how does today's hardware compare with the best the industry had to offer 12 or 18 months ago? For the answers to all these questions and also tweak your current *Oblivion* performance, read on.

GPU or CPU?

Why a new card won't necessarily make it better

Make no mistake. If your graphics card is more than 18 months old, it's unlikely that it should tangle with *Oblivion*'s 3D engine. But what good is a video card upgrade if your CPU is old and crusty, too?

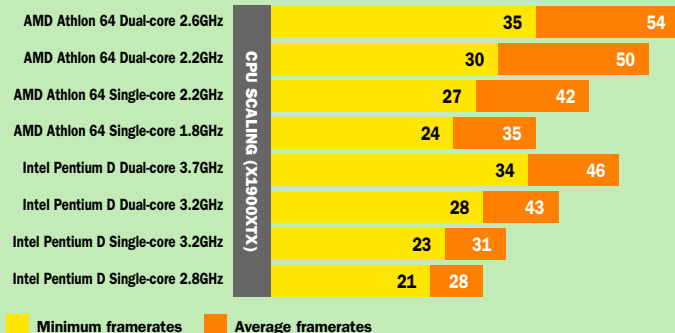
The good news for owners of AMD's grunty processor, the Athlon 64, is that your number cruncher makes a decent fist of smooth *Oblivion* performance. So long as your chip is running at 2GHz or more, you'll get the most out of even the most powerful graphics card. However, early 1.8GHz Athlon 64s don't quite make the cut – the huge detail of levels like the Imperial City is too much, with minimum framerates dropping below 25 per second. In that context, the addition of a second core with an X2 dual-core Athlon 64 is just gravy.

But what of Intel's Pentium 4 desktop chips? Well, the best we can say is that the all-new Conroe

architecture is coming. And not a moment too soon. In our testing even a 3.2GHz Pentium 4 was defeated by the Imperial City benchmark, notching up an average of just 31fps and a minimum of 23. As for its even weedier 2.8GHz sibling, that chip was a stuttering wreck. Our simple conclusion, therefore, goes something like this: if you want to enjoy this Summer's games, no touchy single-core Pentium processors.

That said, thanks to the multi-threading capabilities of the *Oblivion* engine, a dual-core Pentium D provides surprisingly plausible performance. Clock for clock, a Pentium dualie is around 20% quicker than its single-core equivalent. Given the rock-bottom prices at which Intel is currently flogging Pentium Ds and bearing in mind how well they overclock, Intel certainly has something to offer to games fans on a tight budget.

1,024x768, HIGH QUALITY, RADEON X1900 XTX (STANDARD LIGHTING/THE GREAT FOREST/IMPERIAL CITY)



It's in the game

The base settings used throughout these tests

VIDEO CARD IMAGE QUALITY SETTINGS	HIGH QUALITY	REDUCED QUALITY
Textures	Large	Medium
Tree fade	90%	90%
Actor fade	50%	25%
Item fade	50%	25%
Object fade	50%	25%
Grass distance	50%	25%
View distance	100%	100%
Distant lands	On	On
Distant buildings	On	On
Distant trees	On	On
Interior shadows	50%	50%
Exterior shadows	50%	50%
Self shadows	Off	Off
Shadows on grass	On	Off
Tree canopy shadows	On	Off
Shadow filtering	High	Off
Specular distance	100%	100%
Water detail	On	On
Water reflections	On	On
Water ripples	On	On
Window reflections	On	On
Blood decals	High	High

Key image quality settings are in dark green

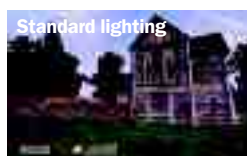
In-game image quality settings

Testing *Oblivion's* most demanding video options

Ramp up the graphics quality and *Oblivion* will bring any PC to a grinding, wheezing halt. That much we already know. But exactly which options will do most damage to your framerates and which will be so important to retaining stunning visuals that you'll want to keep them cranked up as high as

possible? Along with global settings such as lighting quality, we've focused on the options that most directly effect performance out in the most demanding sections of the Great Forest. That way, you should be able to resist sacrificing too much visual quality in your quest for better benchies.

High Dynamic Range and Bloom options



Flat, dull and lifeless. That's Cyrodiil without HDR...

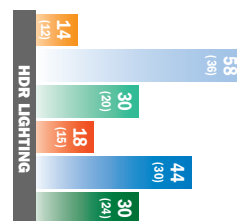
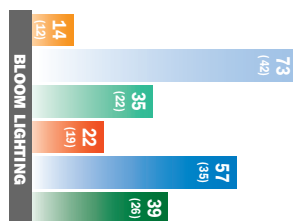


Game developers and graphics hardware companies have made a big noise about High Dynamic Range (HDR), and it's easy to see why. *Oblivion* uses the most demanding FP16 HDR format, rather than the lower quality approach used by *HL2*: *Lost Coast*. *Oblivion* also offers a Bloom lighting option which is intended to offer some of the

dynamism of HDR without the performance cost.

It's reassuring to find that HDR can be enabled in return for just a few frames per second in the most demanding outdoor areas of the game. Move inside to the dungeon and catacomb levels, and the performance hit of HDR is more apparent – but that's ok, because you've more performance to spare.

1,280x1,024, High Quality, 8x anisotropic filtering



NVIDIA GeForce 7600 GT 256MB
The Great Forest

NVIDIA GeForce 7600 GT 256MB
Even Catacombs

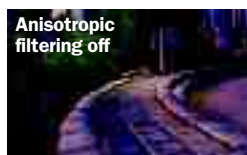
NVIDIA GeForce 7600 GT 256MB
Imperial City

ATI Radeon X1800 GTO 256MB
The Great Forest

ATI Radeon X1800 GTO 256MB
Even Catacombs

ATI Radeon X1800 GTO 256MB
Imperial City

Anti-aliasing and anisotropic filtering



At oblique angles with aniso filtering disabled, texture detail simply vanishes.

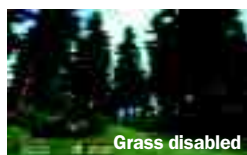


Aniso and AA. The cornerstones of modern gaming right? Not quite. With anti-aliasing, the problem is twofold. For starters, you can't have both AA and HDR enabled on NVIDIA hardware. Despite the fact that we'd normally say anti-aliasing is a must for flat-panel gaming, in this case we'd take HDR every time. ATI's latest X1600 and X1900 cards

flaunt their ability to apply AA to FP16 HDR lighting. But in truth, even ATI's best cards lack the grunt to run *Oblivion* with AA enabled.

As for anisotropic filtering, if at all possible, switch it on. It will rob you of a few frames per second. But without it, much of *Oblivion's* normal mapped and specular highlighted wonder disappears into a blurring, indistinct mush.

Setting the correct grass draw distance



God, it's a barren, featureless desert out there, Darling.

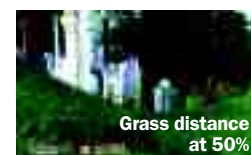


Grass distance is the trickiest *Oblivion* setting to get right. Winding it up delivers the densest 3D foliage around, but it will reduce any PC to smouldering ashes. Indeed, even set to just 50%, grass distance has a debilitating impact on framerates.

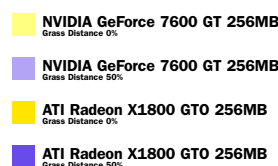
Disabling grass allows a mid-range card such as a GeForce 7600GT to spit out in excess of

three times more frames per second. But the result is a flat and featureless forest.

In practice, a distance of around 30% is a reasonable compromise for less powerful video cards. Anything less, and your character will be prancing around the Great Forest, surrounded by a small and rather bizarre-looking island of grass, heather and bracken.



1,680x1,050, 8x Anisotropic filtering



NVIDIA GeForce 7600 GT 256MB
Grass Distance 0%

NVIDIA GeForce 7600 GT 256MB
Grass Distance 50%

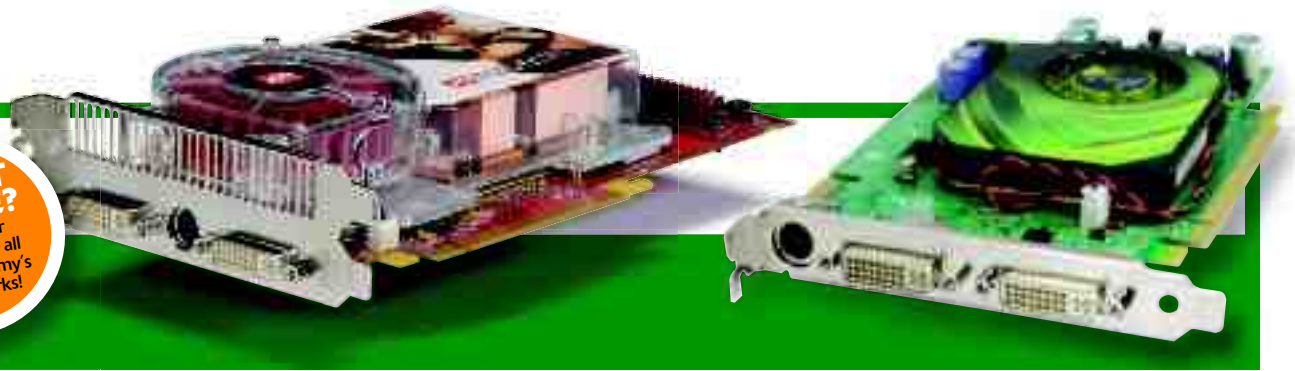
ATI Radeon X1800 GTO 256MB
Grass Distance 0%

ATI Radeon X1800 GTO 256MB
Grass Distance 50%

STANDARD LIGHTING

All tests done on FX60 platform. All benchmarks show average and (minimum) framerates in bespoke demo scenes.

WANT MORE?
Check our website for all 650 of Jeremy's benchmarks!

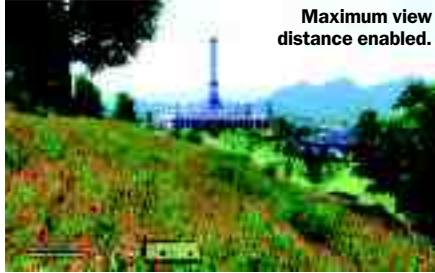


View distance settings



View distance set to 50%

Hello fog, goodbye Imperial City... now then, *this* is what we're talking about

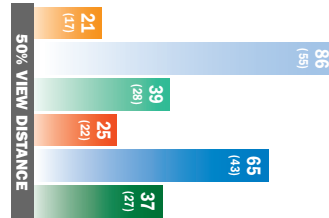
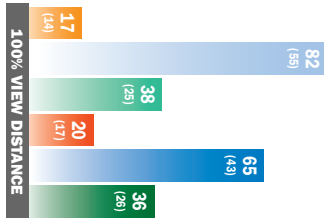


Maximum view distance enabled.

Oblivion's draw distances separate it from the herd. The ability to see miles into the distance is a watershed for PC gaming. But it doesn't come cheap. However, there is a view distance slider in the video options menu. So, how does it effect performance? Well, reducing the draw distance to 50% has little

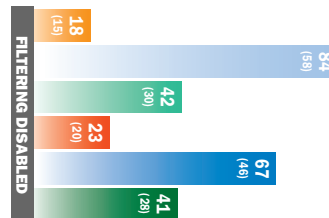
impact on framerates in the city or underground levels. Out in the Great Forest, performance jumps by around 25%. But, reducing the draw distance by even 1% disables the rendering of distant buildings and objects and introduces a milky fogging effect that does an excellent job of ruining Oblivion's splendid visuals. Our advice? Don't touch that draw distance slider!

1,024x768, High Quality, 8x anisotropic filtering, HDR lighting (figures in brackets are minimum framerates)



- NVIDIA GeForce 7600 GT 256MB (The Great Forest)
- NVIDIA GeForce 7600 GT 256MB (Elven Catacombs)
- NVIDIA GeForce 7600 GT 256MB (Imperial City)
- ATI Radeon X1800 GTO 256MB (The Great Forest)
- ATI Radeon X1800 GTO 256MB (Elven Catacombs)
- ATI Radeon X1800 GTO 256MB (Imperial City)

1,280 x 1,024, High Quality, 8x anisotropic filtering, HDR lighting (figures in brackets are minimum framerates)



- NVIDIA GeForce 7600 GT 256MB (The Great Forest)
- NVIDIA GeForce 7600 GT 256MB (Elven Catacombs)
- NVIDIA GeForce 7600 GT 256MB (Imperial City)
- ATI Radeon X1800 GTO 256MB (The Great Forest)
- ATI Radeon X1800 GTO 256MB (Elven Catacombs)
- ATI Radeon X1800 GTO 256MB (Imperial City)

Canopy and grass shadow settings



Shadows on grass



Canopy shadows

The shadows on grass option is only an issue in third-person mode.

These two options are subtler than the grass draw distance, but both are capable of giving your 3D card problems. While enabling canopy shadows improves realism, it's also one of the first options we'd knock on the head if our framerates in the Great Forest were giving us a headache.

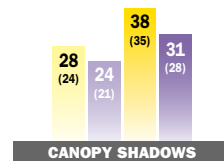
As for the shadows on grass option, much will depend on your

preferred viewing mode. In first-person perspective, it's as well to leave this option off, as you won't be able to view the shadow your character is casting on the surrounding foliage.

As with all the shadow options available in *Oblivion*, the shadow filtering option provides a useful secondary tool for optimising shadow rendering performance.

1,680 x 1,050, 8x Anisotropic filtering, standard lighting, grass distance 25%

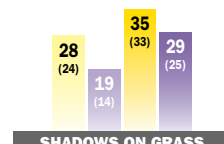
- NVIDIA GeForce 7600 GT 256MB (Canopy shadows off)
- NVIDIA GeForce 7600 GT 256MB (Canopy shadows on)
- ATI Radeon X1800 GTO 256MB (Canopy shadows off)
- ATI Radeon X1800 GTO 256MB (Canopy shadows on)



CANOPY SHADOWS

1,680 x 1,050, 8x Anisotropic filtering, standard lighting, grass distance 25%

- NVIDIA GeForce 7600 GT 256MB (Shadows on grass off)
- NVIDIA GeForce 7600 GT 256MB (Shadows on grass on)
- ATI Radeon X1800 GTO 256MB (Shadows on grass off)
- ATI Radeon X1800 GTO 256MB (Shadows on grass on)



SHADOWS ON GRASS

Counting cards

It's ATI vs NVIDIA all over again

Benchmarking most games is seriously simple. Just fire up the time demo and fire away. Nothing is so easy with *Oblivion*. For starters, there's no built-in testing utility, so it's all about manual run throughs using *Fraps*. That may be awfully hard work, but it does mean that every result reflects real-world performance. The other benchmarking challenge *Oblivion* presents is its incredibly varied outdoor, urban and indoor environments. Once again, there's no easy option. We've tested every card in three key areas: the Great Forest, the Elven Catacombs and the Imperial City.

UP TO £100

ATI Radeon X1600XT 256MB Asus EAX1600XT Silent

Price £100 Manufacturer Asus
Web www.asus.com



NVIDIA GeForce 6600GT 128MB MSI NX6600GT

Price £75 Manufacturer MSI Web www.msi.com

Any proud owners of a card boasting either of these two chipsets should avert their gaze now, as we bear tidings of great woe. In short, neither the GeForce 6600GT or Radeon X1600XT have what it takes to handle *Oblivion*. That's harsh, but it's also absolutely true.

Using our default high quality configuration in our Great Forest benchmark, the 6600GT scores a feeble 11fps average with a headache-inducing minimum framerate of just eight. And that's at a less-than-optimal resolution of 1,024x768. You can forget *Oblivion* at native resolution on a 17 or 19-inch SXGA LCD panel. The X1600 copes a little better, but it still can't breach the 20fps barrier, much less achieve the 30fps average that's necessary for smooth gaming. Oh, and we forgot to mention

something. Those performance numbers are only for standard lighting. Switch on HDR lighting and the numbers go through the floor. Damn, it's ugly.

Crank the settings down a little, as we did for our reduced quality benchmark (for this test we knocked down demanding options such as grass draw distance and shadow rendering at 25%) and keep your mitts off the HDR button, and the X1600 just creeps over 33fps average. But even in this compromised scenario, the 6600GT can't cope. Sorry folks, but real-world *Oblivion* fun starts at over £100.

CHEAPSKATE

PCF says... "ATI's X1600 is noticeably quicker. But let's be honest, neither card really makes the grade."

UP TO £150

ATI Radeon X1800 GTO 256MB Powercolor Radeon X1800 GTO

Price £150 Manufacturer Powercolour Web www.powercolour.com

NVIDIA GeForce 7600 GT 256MB MSI NX7600GT

Price £137 Manufacturer MSI Web www.msi.com

Eighteen months ago, the pure performance of these mid-range graphics cards would have struck fear into the hearts of the fastest graphics cards on the planet. Both sport 12 pixel pipelines and clockspeeds well north of 500MHz. It's therefore flabbergasting to see what a terrible beating they take at the hands of *Oblivion*.

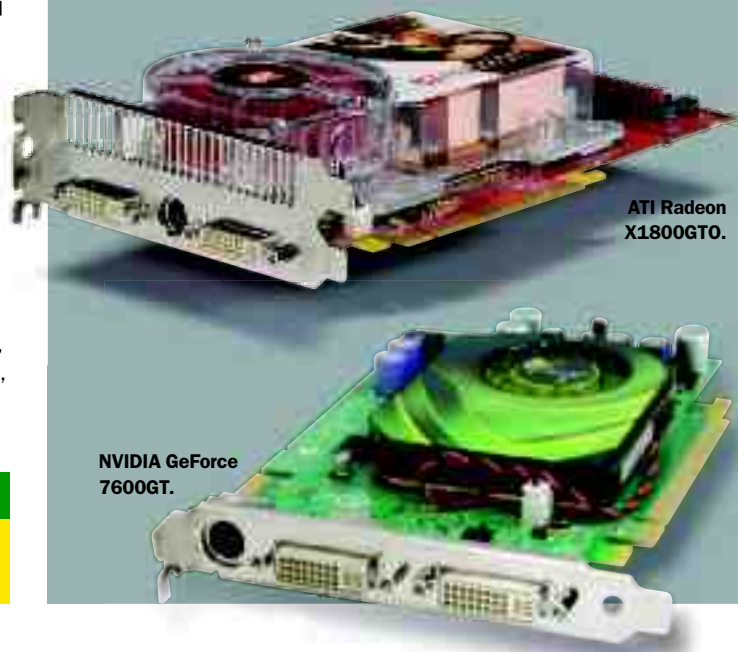
Even at a lowly screen resolution of 1,024x768, neither card handles our high quality HDR benchmark run through the Great Forest with anything approaching aplomb. However, with an average performance figure of 24fps, we'll give the X1800 GTO credit for being just about playable. Ramp the resolution up to 1,280x1,024 or 1,680x1,050 (the latter is the standard resolution of the popular new breed of 20-inch widescreen monitors) and the situation, already a marginally

uncomfortable one, will only get a great deal worse.

Still, it's not all bad. Both cards make decent fists of rendering our Elven Catacombs and Imperial City test, the 7600GT producing decent framerates up to 1,280x1,024 and the X1800 GTO even knocking out playable results at 1,680x1,050. It's also worth noting that the cost of enabling HDR is modest – just a few frames per second. So, the moral of the story here is simple. If you are willing to compromise a little on features such as grass draw distance, you've a fighting chance of enjoying *Oblivion* at native resolution with either of these mid range offerings.

PASSABLE

PCF says... "Decent *Oblivion* performance starts here. ATI's X1800 has the edge where it counts."



ATI Radeon
X1800GTO.

NVIDIA GeForce
7600GT.


£300 PLUS

ATI Radeon X1900 XTX 512MB

Sapphire Radeon X1900XTX

Price £350 Manufacturer ATI Web www.sapphiretech.com



NVIDIA GeForce 7900 GTX 512MB

Gigabyte 7900 GTX GV NX79X512

Price £350 Manufacturer NVIDIA Web www.gigabyte.com

And so we come to the big boys' toys, the two fastest video chipsets known to man. Sure enough, even these mean machines struggle to cope with *Oblivion's* brutal outdoor scenes. With an average framerate of just 27 and a minimum of 24 in our Great Forest benchmark, the 7900 GTX just squeaks a pass in terms of playability at 1,280x1,024 with HDR enabled. That's an extraordinary result given the ease with which that card crushes most games at low resolutions. As for ATI's all-conquering Radeon X1900 XTX, well, it's just 2fps quicker on both counts.

Bump up the resolution to the increasing popular widescreen settings of 1,680x1,050 and 1,920x1,200 (the latter is the typical native resolution of 23 and 24-inch wide aspect LCD panels) and both just fall below what we'd

consider properly smooth playability. Of course, as with all the other cards here, releasing a little outdoor performance is easy enough – simply wind down settings such as grass draw distance and shadow detail a little in the video options. However, if you'd just paid £350, you'd have every right to be a little peeved about compromising on in-game image quality settings in order to run *Oblivion* smoothly on your shiny new 23-inch widescreen monitor. As a final note, these results prove that ATI's ability to run anti-aliasing with HDR lighting is effectively redundant – there simply isn't any performance to spare on such a luxury.

STILL STRAINED

PCF says... "ATI's Radeon X1900 is the best bet for owners of large widescreen LCD monitors."

Pick a number

How the cards we looked at compare

UP TO £100	THE GREAT FOREST	ELVEN CATACOMBS	IMPERIAL CITY
1,024 x 768, High quality, 8x anisotropic filtering, HDR lighting			
NVIDIA GeForce 6600GT 128MB	9 (7)	42 (26)	18 (11)
ATI Radeon X1600XT 256MB	12 (10)	41 (27)	25 (19)
NVIDIA GeForce 6600GT 128MB SLI	16 (14)	72 (47)	30 (22)
ATI Radeon X1600XT 256MB Crossfire	17 (14)	62 (44)	27 (21)
1,024 x 768, Reduced quality, 8x anisotropic filtering, standard lighting			
NVIDIA GeForce 6600GT 128MB	19 (17)	69 (40)	29 (22)
ATI Radeon X1600XT 256MB	33 (29)	78 (44)	37 (28)
UP TO £150	THE GREAT FOREST	ELVEN CATACOMBS	IMPERIAL CITY
1,280 x 1,024, High quality, 8x anisotropic filtering, HDR lighting			
NVIDIA GeForce 7600GT 256MB	14 (12)	56 (36)	30 (20)
ATI Radeon X1800 GTO 256MB	18 (15)	44 (30)	30 (24)
NVIDIA GeForce 7600GT 256MB SLI	26 (21)	95 (68)	52 (34)
ATI Radeon X1800 GTO 256MB Crossfire	N/A	N/A	N/A
1,280 x 1,024, High quality, 8x anisotropic filtering, Standard lighting			
NVIDIA GeForce 7600GT 256MB	15 (12)	78 (44)	35 (24)
ATI Radeon X1800 GTO 256MB	23 (20)	60 (36)	41 (29)
1,680 x 1,050, High quality, 8x anisotropic filtering, HDR lighting			
NVIDIA GeForce 7600GT 256MB	10 (8)	45 (28)	21 (13)
ATI Radeon X1800 GTO 256MB	15 (13)	36 (24)	28 (22)
NVIDIA GeForce 7600GT 256MB SLI	18 (16)	80 (53)	38 (25)
ATI Radeon X1800 GTO 256MB Crossfire	N/A	N/A	N/A
£300 PLUS	THE GREAT FOREST	ELVEN CATACOMBS	IMPERIAL CITY
1,280 x 1,024, High quality, 8x anisotropic filtering, HDR lighting			
NVIDIA GeForce 7900GTX 512MB	27 (24)	107 (77)	55 (36)
ATI Radeon X1900 XTX 512MB	29 (26)	95 (65)	52 (33)
NVIDIA GeForce 7900GTX 512MB SLI	49 (46)	110 (86)	54 (36)
ATI Radeon X1900 XTX 512MB Crossfire	43 (38)	110 (81)	52 (33)
1,920 x 1,200, High quality, 8x anisotropic filtering, HDR lighting			
NVIDIA GeForce 7900GTX 512MB	19 (15)	81 (50)	42 (26)
ATI Radeon X1900 XTX 512MB	22 (19)	71 (46)	42 (30)
ATI Radeon X1900 XTX 512MB Crossfire	35 (32)	-	-

Figures shown are average and (minimum) framerates in bespoke demo scenes.

Two cards better?

Is there a dual graphics set-up that's capable of smoothly rendering *Oblivion* at 2,560x1,600?



Unless you've got a dual-GPU setup, forget the 30-incher.

That's the four megapixel, anisotropic-filtered question everyone is demanding an answer to. Or at least, it's the question those lucky enough to own that prince among LCD panels, the Dell 3007WFP, will be pondering. And the answer is, yes, but only just. A pair of ATI Radeon X1900s in dual-card Crossfire configuration squeak through by a thin film of heat paste in our maximum attack Great Forest test. We're not talking 60fps of liquid-fast 3D fun. More like playable with odd dropped frame when the on-screen carnage reaches ridiculous levels. And remember, that's without anti-aliasing enabled. Flick the AA switch and you can kiss goodbye to just enough frames to make your head

throb like it's been squished in a big vice.

At the more mainstream res of 1,920x1,200 the superior dual-GPU scaling and lower CPU overhead of the SLI platform allows the 7900GTX pairing to pull ahead in the Elven Catacombs and Imperial City benchmarks.

THE IDEAL SETUP

Further down the range, SLI's greater maturity shows, with the 6600GT configuration coming much closer to the ideal setup of a twin GPU solution against the X1600 competition and a pair of 7600GTs taking a rather academic victory thanks to a lack of driver support for *Oblivion* from the X1800GT0's video driver. Finally, it's worth noting

that a pair of 7600GTs get impressively close to matching a single 7900GTX for around 50 fewer pictures of Her Majesty. As ever, we'd always favour a single expensive card over two cheaper boards bolted together. That said, if you already happen to have a

7600GT humming a pleasant 12-pipe tune inside your beloved rig, it's very comforting to know that simply dropping a second card in next to it will deliver a 24-pipe setup that comes tantalisingly close to matching NVIDIA's range-topping pixel pusher. **PCF**

What we've learned

Setting up your 3D card has never been easier

The latest hardware tested to melting point. Every nook and cranny of *Oblivion* carefully inspected. All the image quality issues carefully considered. And a grand total of over 650 individual benchmark results (mosey on over to the PCF website to experience the full terror of the test results, the compilation of which brought a certain PCF staffer to the very edge of sanity). So, what conclusions can we draw from all this hard graft?

First things first: it doesn't matter what hardware you own, you're going to have to compromise image quality in return for smooth gameplay. *Oblivion* can, and will, bring every 3D setup on the market to its knees. It's also sobering to realise that anti-aliasing is a non-starter. It's not supported with HDR lighting on NVIDIA hardware and none of ATI's graphics chipsets truly have enough grunt to support anti-aliasing.

But we've also discovered that tweaking key in-game video options

such as grass draw distance and shadow detail can make a huge difference to real world playability without totally trashing the visual majesty that *Oblivion* is capable of. Likewise, it's a pleasant surprise to find that the goodness of HDR lighting comes at relatively little cost in terms of performance. HDR makes a massive difference to the overall vibrancy of *Oblivion*'s visuals. It's an absolute must have if you want to enjoy the true majesty of Bethesda Softworks' stunning gameworld.

As for other areas of PC performance, *Oblivion* proves much more merciful. A gig of system memory is enough to provide a great all-round experience and if you currently own almost any Athlon 64 CPU, whether single or dual-core, you're definitely in the clear. However, a word of warning to those running a single-core P4 clocked below 3.2GHz. If you're serious about getting the most out of the current crop of games, an upgrade is your only option.

	THE GREAT FOREST	ELVEN CATACOMBS	IMPERIAL CITY
2,560 x 1,600, High quality, 8x anisotropic filtering, HDR lighting			
NVIDIA GeForce 7900GTX 512MB SLI	24 (20)	83 (57)	41 (30)
ATI Radeon X1900 XTX 512MB Crossfire	27 (24)	81 (54)	46 (31)
2,560 x 1,600, High quality, 8x anisotropic filtering, HDR lighting + 4x AA			
NVIDIA GeForce 7900GTX 512MB SLI	N/A	N/A	N/A
ATI Radeon X1900 XTX 512MB Crossfire	23 (20)	61 (40)	39 (28)

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PCFormat

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The very best software and games

HIGHLIGHTS

E3 galleries

We've searched high and low for the best and in some cases oddest (*Desperate Housewives the Game?*) screenshots straight from E3. Ooh, it's just like you were there. Apart from the combined smell of a million gamers that is.



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GR: Advanced Warfighter

Bring those Mexican banditos down to size

W,S,A,D Movement
LMB Shoot
RMB Zoom
Shift Sprint
Tab Tactical Map



Titan Quest

Take part in your very own Harryhausen adventure

LMB Action
M-wheel Block
Q Quest Window
C Character Window
W Swap Weapon Set



R&F: Civilizations at War

Her name is Cleo and she dances on the sands...

LMB Select
RMB Move/Attack
Q Hero Mode
C Charge (Hero Mode)
F Follow (Hero Mode)



Heroes of Might and Magic 5

Mount your noble steed, level your lance and charge!

LMB Action
RMB Rotate/Pitch Cam
Csr Keys Move Cam
MsWheel Zoom in/out



Evolution GT

Pedal to the metal with five cars on three tracks of this Darwinian racer

A Accelerate
Z Break
Left Left
Right Right

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116

Cleanerzookeeper

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Fed up with unknown elements raiding your fridge? Set up your very own surveillance system to catch them red-handed.

Full software



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Lock up your PC tighter than Fort Knox, the Bank of England and Tom Jones' incomprehensibly tight trousers combined.

Full software



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Put your own models in Quake IV

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116 Clean and sweep

Put the shine on your digital photos with our comprehensive guide to *Cleanerzookeeper*.

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That dual-core CPU not pulling its weight? We show you how to make your system play ball.

122 Secure that kit

Keep tabs on your most precious belongings with our guide to *CamGuard Security System*.

125 Safe surfing

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126 Lose yourself in Quake

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We show you how to automate practically anything your PC does with *Ghost Control*.

130 Make Ubuntu beautiful

Bring our favourite *Linux* distro to life with *Vista*-like 3D effects.



For a full list of everything on the DVD, please refer to the disc's interface. Controls for the games are listed there too.

ON THE DISC

Check out the 'on the disc' boxout in each workshop to find out what other relevant programs are waiting on the PCF disc, as well as how to install or upgrade new apps.



Adam Oxford frees his beloved photos from the confines of his PC using online photo albums

We're several years into the era of digital photography now, and the transition from 35mm film is pretty much complete. There's been some high profile victims - most regrettably the photographers' friend, Konica Minolta. Despite providing the amateur photographer with the most useful tool ever created, the company has sold out to Sony. The tool in question? On-camera image stabilisation; normally found only in high end lenses costing over £1,000, it brought shake-free shooting to all. But such is life.

In a more positive vibe, now that we've all switched to digital, our worlds have become much more visual. By our reckoning, the average PCF reader has drives-full of pictures old and new, replacing dusty old photo albums which are never viewed with dusty old discs that are never used.

We say liberate them. Show them to the world. Upload them to one of the web's many photo sites. There are three reasons this makes sense: showing shots to family and friends becomes a simple matter of forwarding a link; you never know who might see your pictures and take an interest; and finally, you'll have a permanent, off-site back-up.

The biggest and best known photo sharing site is flickr (www.flickr.com) - it's simple to use and you can even attach a Creative Commons licence to your pictures automatically. Other sites worth a try include www.picasa.com and the Kodak site, www.ofoto.co.uk - which is also great for cheap prints.



Flickr is an increasingly popular way of sharing your arty shots with chums.

Have your say forum.pcformat.co.uk



Clean up your digital images

Photoshop? Where we're going we don't need Photoshop, explains Adam Oxford...

Next time you're at a newsworthy event - whether it's the World Cup or the school soccer finals - have a look at the arsenal of photography equipment the official snapper is using. Ten lenses, a laptop and enough filters to glaze a church are likely nestling on the top of their

camera bag. That's just the equipment they carry around with them, to achieve that true 'slightly-blurry-and-grainy' newspaper feel, they'll have to post-process their shots on a state of the art PC with several thousand pounds' worth of software.

For the amateur armed with nothing but a compact digital camera, getting a professional

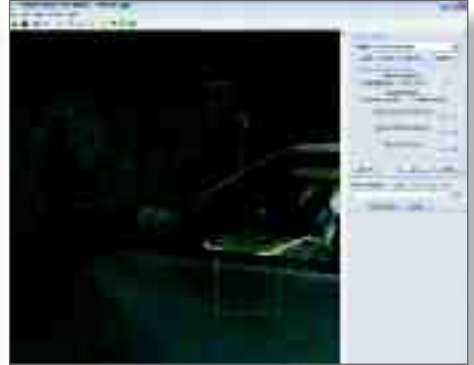
Removing image noise

Despeckle yourself



1

While in Los Angeles for E3, PCFormat visited Universal Studios for a ride in the famous *Back to the Future* DeLorean. Unfortunately, it forgot its digital camera, and had to make do with phone camera speckle-vision. You can find the sample shot on our cover DVD.



2

Thank goodness for *CleanerZoomer's* noise removal tool, then. This is a fairly messy shot, so we're going to run a **Strong Photo Noise** filter on the colour channels (CbCr), altered slightly by bringing down the first two sliders to preserve some image detail.



3

There's still a few hot pixels in our shot, and by changing the preview mode we can see that they're mostly in the brightness values, so we'll run the filter one more time on the Y setting. This time we'll lower the **Filtration** slider, and raise the other two, to catch all errant pixels.



4

Finally, we'll try and reduce the remaining hot pixels left around the detail with the **Fine Artefacts** tool. The **Strong Hot Pixels** setting with the **Transparency** slider dropped to halfway worked a treat for getting rid of those unsightly blemishes.



5

That's probably as much noise as we're going to get rid of for now, it's not perfect, but it's certainly a hundred times better than it was. We've lost a bit of detail in the smoothing out though, so we need to sharpen the shot somewhat.



6

The **Sharpness** filter – at standard settings for blurry photos – reclaims the details from the smoothed image. There's some jaggies along the edges which we could go back and smooth, but compared to where we started this is as clever a piece of work as the Flux Capacitor itself.

"Noise removal in most programs reduces your image to a Van Gogh style mess"

looking shot can often seem a bit daunting. Sure, with our copies of *PaintShop Pro 5* we sort of have the tools to hand, but *PCFormat* understands that unless you're in the habit of editing large quantities of images on a daily basis, simply remembering the best way of cleaning up noise and sharpening is a chore.

DEADLY SINS

Most of *PCFormat's* shots are taken late at night, on impossibly small and stylish cameras, in darkened corners of drinking dens with ISO levels set to eye-poppingly noisy high sensitivity. So it's for purely selfish reasons that we've tracked down an ace image cleaning and resizing program that will soon have a place in every photographer's toolkit, whether you're shooting for *Vogue* or simply being vague. It's called *Cleanerzoomer* and there's a full version on this month's *PCF* DVD.

Unlike those pros who shoot for the back pages of the red tops, we want our digital images

Turn the page for the rest of the tutorial...



Enlarging and sharpening

For when postcard sized isn't enough



ON THE DISC



Cleanerzookeeper

This nifty app should turn your shoddy snaps of friends' blurry, garbled faces into works worthy of display in an arty farty gallery. Well, unless your friends actually have blurry, garbled faces, in which case we can't really help.

cleaner.stratopoint.com

ArtRage

If photos aren't your bag, baby, then perhaps this scribblegasm of an art tool is the program for you. Stacks of simulated brushes and artistic tools mean you can create sumptuous faux impressionist pictures.

www.artrage.com

Sample shots

We've included the images from this tutorial on the disc. Feel free to experiment with the shots and replicate our results for yourself.

The Gimp

Open source graphics editing at its finest. Bite your thumb at the Photoshopping hordes and relish the free lunch.

www.gimp.org

7 So far so good, but what of *Cleanerzookeeper's* yet more useful tools for resizing and sharpening. We want to take this slightly out of focus 1,600x1,064 shot of a shy zebra and turn it into a suitably grand desktop image for our test rig, which has a massive 2,560x1,600 screen.



8 First off, we'll run a weighted sharpen to bring him into focus. To protect detail, we'll keep the first two sliders (which decide the area samples to be sharpened) low, and the second two high (to really crisp him up). The results are good, but leave glowing fringes around the face.



9 Forget about them for the time being. First we need to blow him up. Not in the deathmatch-rocket-launcher-to-face style, but in the 'increase the size' way. Simply select the resolution you want, run the **Lanczos** method and our zebra is now some giant mutated horse-beast.



10 This process has, naturally, created a few more artefacts, so let's get rid of those along with the sharpening halos from earlier. Using the **Fine Artefacts Removal** dialogue, load up the **Light JPEG Fringes** settings, and then drop the first two sliders.



11 The **Transparency Effect** works a little like a Photoshop layer control. You can alter the overall effect of the transformation you're running. Lowering it will allow more of the stronger details in your image to survive the cleaning process, but may allow hot pixels through.

12 And voila, one enormous, sharp image from a slightly blurry tiny one. Suitable for the World's Biggest Desktop Background. The best results can be achieved through trial and error, though, so we've included the original shot on our disc for you to try and improve yourself.

to be clear, crisp and big enough to print at A4 or even A3 sizes without stretching. The blight of the desktop darkroom is that printer drivers simply aren't good enough to handle enlargements to images without introducing blocky artefacts, and the tools to remove image noise in most editing programs are either too unsophisticated to control without smearing the entire shot into a Van Gogh style mess, or so overly complex as to require specialist training.

Cleanerzookeeper is different. A sophisticated interpolation algorithm based on a set of mathematical equations drawn up by one of Einstein's assistants generates the extra pixel data needed when enlarging an image. It's much superior to the normal bicubic method employed by *Photoshop*. The image cleaning tools, meanwhile, achieve the software holy grail of being all powerful, yet simple to use. Because it's a dedicated tool, it does what it sets out to do very well indeed.

COME ON HEAL THE NOISE

Image noise – the speckling of irregularly coloured dots on a picture – has several causes. It can be caused by long exposures, high background temperature and, most often, by increasing the sensitivity of the camera's sensor (ISO value) to compensate for low light. If your camera is set to fully automatic, it may even be doing the latter without you knowing. The point is that once it's on an image, without a tool like *Cleanerzookeeper* it's very hard to get rid of. But that's not all CZ will do for you – it also removes JPG artefacting caused when a camera over-compresses an image to store it on a memory card, and even reduces the purple fringing of chromatic aberration. Finally, there's also a powerful sharpening tool, so once the image has been enlarged and smoothed, you can reclaim some of the really fine details that, in many cases, you didn't know were there in the first place.

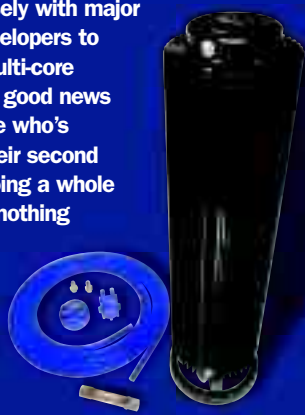
Each of the four tools – noise remover, fine artefact remover, resample and weighted sharpen – have a number of parameters that allow you to tailor them per image, although there are also useful pre-set calculations which will work well in most circumstances. **PCF**

Alec Meer dismisses dual-core tech: quad-core setups are on their way. But are you ready?

The idea of an ungodly four processor cores squatting atop a single chip may sound more obscene than Douglas Hurd in lingerie, but in fact it's only a matter of months it becomes reality. Intel's recently confirmed Kentsfield CPU is the follow-up to its landmark dual-core Conroe chip (previewed to great acclaim last issue), due next January. It combines the differing multi-core approaches taken by Conroe and its predecessor, Presler, resulting in a processor that's basically two Conroes squeezed into a single chip, each with a separate 4MB L2 cache. While this total of 8MB sounds formidable, because it's not unified across all four cores there will be additional bus traffic as a result, potentially raising load problems. The follow-up chip, however, will move to 8MB of unified cache.

POWER UP

Despite the hefty number of cores, we're not expecting there to be any power of heat issues from the 65nm Kentsfield – a 2.6GHz dual core Conroe musters about 65W, and come 2007 this should have been refined down to be far lower – at an educated guess, to 40 or 50W. So, a quad-core Kentsfield will run at 80-100W – considering the fastest Pentium Ds draw as much as 130W, this is nothing to be concerned about. Perhaps more importantly, Intel claims to be working more closely with major game developers to ensure multi-core support – good news for anyone who's finding their second core is doing a whole bunch of nothing in current games.



Intel's new chip has four cores, but it won't need excessive cooling.

Have your say forum.pcformat.co.uk

Two-minute dual core fixes

Of course you're well ahead of the game. You've successfully predicted the rise and fall of dozens of game developers, musicians and posh restaurants, you always sport an 'interesting' new hairstyle, and the latest £400 3D card monstrosity throbs away inside your tastefully-lit aluminium PC case.

So, right now, you've got a dual-core processor at the heart of your rig. Should mean a

massive performance boost, right? Except... something's horribly wrong. Either games run too slowly, in some cases too fast, or most likely with very little palpable difference from your out-of-fashion single core chip. Windows XP wasn't really designed for multiple processors originally, you see, so your fresh-out-of-the-box new Athlon X2 or dual core Pentium D might not perform quite as expected. Fear not though, this can be fixed. To find out how, read on **PCF**

Optimise your rig

Wring some extra speed out of your chipset



1 Low-power states, where the CPU is throttled according to the demands placed upon it, means processor fans aren't as noisy as they used to be. Trouble is, there's a bug in XP that means some dual core chips don't always throttle back up, resulting in errant performance.



2 Fortunately, there's an official fix from Microsoft. Unfortunately, it won't give it to you unless you ask. It's also hosted it at www.amdzone.com/files/winxp dualcorehotfix.exe (it works for AMD and Intel chips, mind). You have to do a spot of registry editing after you've installed it.

"Once your PC is working as it should, fire up Quake and give it a workout"



6 Grab it from tinyurl.com/84r89. If you're running a dual-core Intel chip, you can do a manual fix. Go to **Control Panel**→**System**→**Advanced**, then click **Settings** under **Startup and Recovery**. Click **Edit**, then add `/usepmtimer` to the end of the last line and save it.

Optimising a dual-core rig



ON THE DISC



SpeedFan

Now your dual-core rig's all tickety-boo performance wise, check it's not generating more heat than it should with this digital temperature gauge and fan speed controller. www.almico.com/speedfan.php

discovering if you're suffering the common dual core throttling problem. www.jam-software.com

Dead Pixel Locator

So a spot of meatball surgery now has your PC's messy innards all fixed up, but what about its beautiful face? This app'll check your brand new LCD or plasma screen for dead pixels, so you know whether you should return it from whence it came, and sort out any minor display performance issues. www.astris.com

HeavyLoad

Give your ultra-mega-ninja-god rig the workout of its life with this intensive benchmarking app, which ensures every resource is tested to the (safe) limits of its abilities – ideal for



3 Type **regedit** at the **Start** menu and click **OK**. Find **HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Control\Session Manager**, right-click on it, click **New**, then choose **key**. Enter the word **throttle**. Then right-click that, click **New** again and choose **DWORD Value**.



4 Type in **PerfEnablePackageldle**, then right-click on it and select **Modify**. Choose **Edit DWORD Value**, and enter **1**, check **Hexadecimal**, press **OK**, exit **regedit** and reboot. Fire up **Sysmark** or **Sisoft Sandra** multiple times, and if the results are consistent, the problem is fixed.



5 Got an Athlon X2 that's still playing silly beggars? Depending on which forums you browse, you may have been subject to bitching about AMD's dualie's performance. The troubles reportedly stem from both cores not always being in sync, and again AMD offers a fix for this.



7 You can also tell XP to deactivate one of the cores whenever a problematic app runs. Start the app, **[Alt]+[Tab]** out and press **[Ctrl]+[Alt]+[Delete]**. Choose **Processes**, find the troublesome task, right-click then choose **affinity**. Uncheck one of the CPUs and press **[OK]**.



8 If there are on-going system problems and you're sure it's CPU-related, you can disable one of the cores. Click **Start→Run**, then type **msconfig** and press **[Enter]**. Choose **boot.ini** then **Advanced Options**. Tick **NUMPROC** and select **1**. Just uncheck the box to undo this.



9 Your dualie is now performing as efficiently as it should, so it's time to give it a workout. The most noteworthy dual core-friendly games of the moment are *Quake IV* and *Call of Duty 2*, both of which offer performance boosts if you patch them and then enable multi-threading.

Dave James looks at the rise of CCTV and wonders how many times he's been secretly filmed

The UK, it seems, is the CCTV capital of the modern world. Everywhere you go on our fair isle, you will be caught on approximately 18 cameras throughout the day. That's everywhere – not just in London, where chances are you'll be taped around 40 times. There are around 750,000 CCTV cameras whirring quietly in Britain as we speak.

There are also around 6,000 speed cameras on our roads. All the revenue generated by these surveillance cameras alone ensures that this figure will only grow in future, too. Jeremy Clarkson will be pleased.

IMAGE OBSESSED

So, you'd think we'd be getting sick of the ubiquity of camera-based surveillance. But no: now the general public are starting to get in on the act too. Whether it's home security suites such as CamGuard enabling you to turn a webcam into a surveillance device, remote access, remote control cameras like the Wireless PT NetCam (PCF186, 75%) or domestic CCTV setups, we want access to our own network of spy cams. Thankfully, though, the Data Protection Act of 1998 keeps us safe from the steely gaze of our nosy neighbours, allowing them to only capture images upon their own property.



Will this soon be a common sight in living rooms countrywide?

Have your say forum.pcformat.co.uk

To catch a thief

The real problem with living with people is the whole 'sharing' thing. No matter who you cohabit with, be it children, parents, a butler, flatmates or a retinue of obsequious servants, at some point something you bought will mysteriously disappear. It's likely that this will be a one-off incident that can easily be put out of your mind, though. After all, who's really going to get that aggravated about the odd biscuit being spirited away now and again? When things get out of hand – and speaking from personal experience, we can tell you that they sometimes do – a little pilfering soon adds up to a hell of a lot of biscuits.

So what do you do? Notes left in the fridge in a fit of pique are never the answer, and cause more problems than they solve. Confrontation and accusation without absolute proof can lead to all sorts of nastiness, so you need someone covering your back.

Along with the support of your PC, a webcam and the CamGuard Security System that's sitting there on your coverdisc. We'll show you how to set up a covert monitoring system and catch those fridge raiders in action, using the all-seeing, ever-vigilant eye of technology. Also works for catching burglars while you're on your hols. **PCF**

Upgrade

You'll find a feature-packed, free version of CamGuard on this month's coverdisc. You can purchase the latest version, which includes remote access options, for £50 from CamGuard's website, at www.zzzsoft.com

UP CLOSE CAMGUARD SECURITY SYSTEM



A SCREEN TIME The screen shows a live image of your webcam's location making it easy to position your remote eye in a prime thief-catching place. It also displays the time and date, which is stamped onto every picture and video that CamGuard takes.

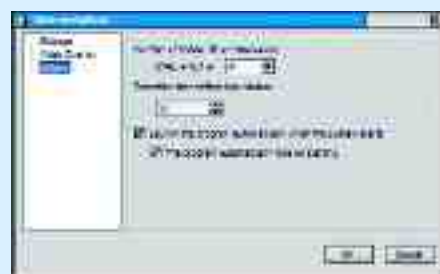
B MOST ALARMING Selecting the icon next to the Alarm button takes you directly to the alarm options. Here you can set whether you want a sound emitted to ward off prospective crims or whether you want it to remain hidden so you can produce the key bit of evidence in your very best Belgian detective way. You can also decide what you want the program to record; pictures or video.

C CALL ON ME Within the Alarm options are the notification parameters. If you're not going to be in the vicinity when the nefarious actions are perpetrated, CamGuard will notify you either by mail or by phone. The email option is the most effective, sending you two time and date-stamped pictures when the alarm's triggered.

D TOOL TIME CamGuard keeps track of all the material captured by the software in the Event List and can be accessed either by day, week or month. There are also basic video capture and timed snapshot functions available via your webcam.

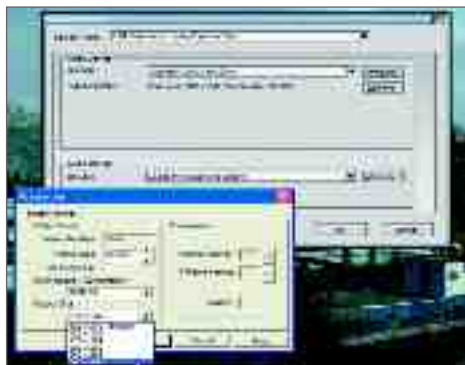
Covert ops Going undercover

The system's options provide the basic tools for running the program in the background. Here you can configure CamGuard to start invisibly as soon as the PC boots up.

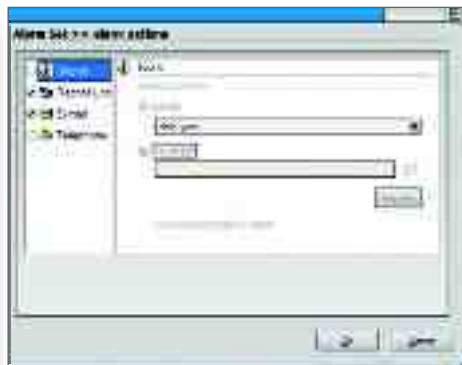


Super sleuth

Catch those grocery rustlers in the act



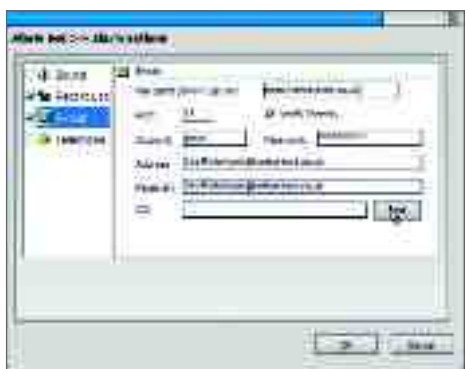
1 First of all, you have to select your webcam in the device settings of *CamGuard*; this screen comes up the first time you start the program. As long as you've got sufficient capacity on your hard drive, you should opt for the highest resolution capture possible.



2 *CamGuard* can be set to emit sounds when the alarm is triggered, but if you're going for the sneak attack you'll want to keep silent. If you have a good enough surround sound setup you could freak the sneak out by playing your own spooky sound file, though...



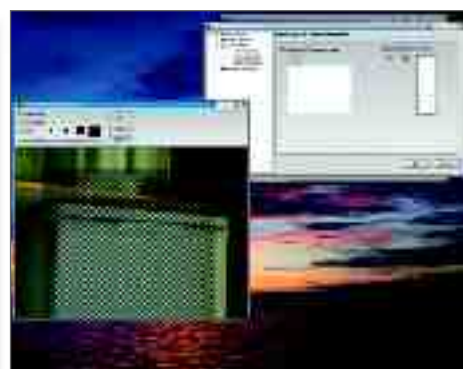
3 Again, it's a matter of hard drive space, but we'd always recommend plumping for the **Recording Video** option. You can always freeze-frame the shot and capture a still image from it. With the **Picture** option it only saves an image every 0.5 seconds.



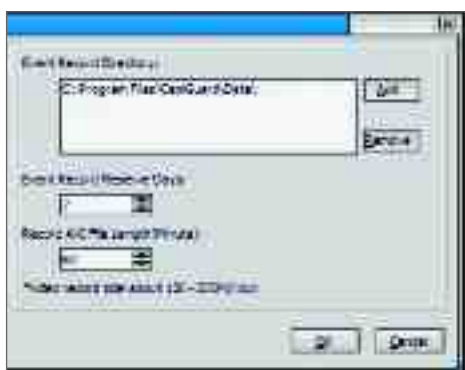
4 You'll probably be out when a light-fingered personage roots through your valuables, so the email option is very useful. You can find all the info you need to set it up in your email client; go to **Outlook Tools→Email Accounts→Change Settings** and you'll see your SMTP server.



5 Use a willing guinea pig, or a Technical Editor if you have one, to test the positioning of the camera, and ensure it's as hidden as possible. You can use extensions on the webcam's USB cable, but remember that five metres is the maximum distance for USB devices.



6 **Motion Detection Area** defines the region in which a certain amount of movement will set off the alarm. Drag the frame around the area, or block it out, and the camera will focus there. The sensitivity can be fully tweaked to stop *CamGuard* spending seven hours taping the cat.



7 In **System Options**, you can set where the files are saved and choose how long recordings are stored before they are overwritten. This is also where you can set the invisible startup options necessary for booting the PC with *CamGuard* running silently.



8 Reboot the PC, and *CamGuard* will silently work its magic in the background. When the alarm is tripped you'll be notified on your remote PC via email and all the images will be stored locally in the **Alarm Event Viewer** in **Tools**. Ah ha! It seems we've found the culprit.



9 Arrange close family, friends and suspects in the parlour after a hearty meal, and announce your intentions to unmask the guilty party, twirling your moustache where applicable. Hit **[CTRL]+[ALT]+[P]**, to display the damning evidence for all to see.

Beat the hackers

Mike Channell locks down his PC with *Computer Security Tool*

We know that the internet is a dangerous place for our vulnerable PCs, and PCFormat is as much to blame as anyone for a laissez-faire attitude towards internet security. Sure, there's the Microsoft Security Centre built into Windows, but for one thing it's hardly the most transparent system of securing your PC, and it doesn't identify individual security holes and allow us to plug them according to our own particular needs.

Computer Security Tool puts paid to both those problems. It runs a scan of your computer and identifies actual problems rather than making sweeping changes that might eliminate useful features. It also presents these security risks in neatly categorised lists with a full description of the possible attacks and benefits of shutting out the nefarious net dwellers.

LOCK AND KEY

We've provided you with a full version of *Computer Security Tool* 4.0 on your coverdisc, a product that usually retails for \$30. All you need to do to activate it is point your browser at www.computersecuritytool.com/future.php and enter your name and email address. You'll be sent a satisfyingly lengthy key code, which you can then copy and paste into the program's activation field along with your username. Pretty soon your PC should be more secure than Fort Knox, and the hackers will be bashing their head against closed ports and disabled services. Then you can stand atop your concrete-encased PC and proclaim victory for the common man (or woman) over the evils of the internet. Or, you know, just use it instead. **PCF**

All that sensitive data can be kept safe from prying eyes.



Upgrade

GetData is offering PCFormat readers 20% off its software for a limited time. Head over to the web address below, choose a product you'd like and enter 20-OFF.

www.getdata.com/purchase.html

Shut that door

Scanning and fixing security holes is simple



1

This is *Computer Security Tool*'s main screen, which offers easy access to the integrated Windows security features, and allows you to quickly make a Windows restore point. What we want is the full system scan, though, so click that conveniently large **Scan Now** button.

2

After a quick squizz at your system, CST will ask you a couple of simple questions regarding how you want it set up. With the PCF connection clogged up thanks to Alec's habit for constantly downloading and reinstalling Linux, we were tempted to leave the modem enabled...



3

Now you realise that your system is as exposed as a streaker at a World Cup Final. You can select **Fix Now** to sort all the issues, but we'd suggest clicking each category to check which changes you want made. Click on **Internet Virus and Spyware protection**, for example.

4

Each category brings up a list of fixes that can be applied with a detailed description that clearly states what the benefit will be – in this case, the blocking of adverts from known pop-up mongers. Select the fixes you want applied, click **Continue** and **Fix Now** when you're done.

ON THE DISC

Firefox

Why not supplement your PC with a secure browser? Firefox is a popular alternative to Internet Explorer and offers plenty of features. www.mozilla.com/firefox

OpenOffice 2.0

We just can't stop pimping this excellent free alternative to Microsoft's bloaty Office suite. Totally free, and good enough for all but the heaviest business users, it's a good Office alternative in all important respects. www.openoffice.org

ZoneAlarm

Hankering after increased control over your software firewall? ZoneAlarm may well be the answer, as it's far more tweakable than the with-us-or-against-us Windows XP effort. www.zonealarm.com

AdAware SE

This edition of the popular adware-stomping app finds even the most persistent malware that might be nestled in that dusty library you call a modern personal computer. www.lavasoft.de/software/adaware

Is your model not working? Fear not, **Ben Harling** is the troubleshooting troubadour...

Getting your mesh and scripting right for the engine is not easy, and *Quake IV* is more than likely to fall over and die, spitting blood-soaked error messages at you, at least once during this process. In an attempt to help, here's a few of the problems we encountered.

PROBLEM: Game crashes at startup

Solution: This is usually due to a syntax error in your scripts. Check all the .def and .mtr files to make sure they are correct. Also, your md5mesh may be corrupt or have too many polygons, so try re-exporting and decimating the mesh to reduce polys. You'll have to go back and re-assign the shaders in *Notepad* if you re-export your md5mesh.

PROBLEM: No textures or solid grey material on the model

Solution: Check your md5mesh points to the correct shader for the mesh. The entry should point to the name of the shader, NOT to the .mtr file itself. Also check your textures are in the right folder, and the paths match up.

PROBLEM: Mesh appears distorted or no head appears in the character selection

Solution: Go back to your model in *Blender*, and make sure the origin of the mesh is at the center of the scene. Also, make sure that every vertex is assigned to a vertex group, and make sure the mesh has UV-unwrapping applied. Both of these are absolutely essential for the engine. Also be sure to clear the transformations from the mesh and armature before parenting the mesh.



Follow the further adventures of James Carey's head at blog.pcformat.co.uk.

Have your say forum.pcformat.co.uk

Finishing your Quake IV mod

This month, we'll be transferring our head model from *Blender* to *Quake IV*'s md5 format, and putting together all the scripting to make it appear in-game. On the disc, you'll find a copy of *Blender* and our completed head, along with textures and scripts.

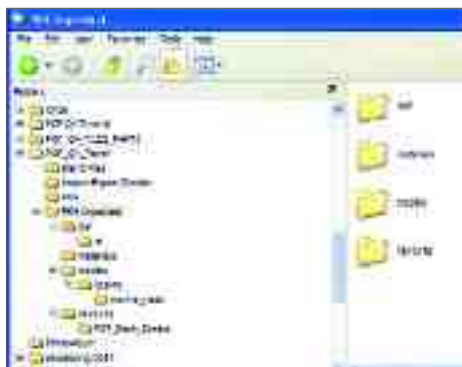
To see the final result, copy **PCF_Q4_Player.pk4** to your **QuakeIV/q4base** folder, run the game, and select the character from the **Settings** menu. We're transferring the head for this tutorial,

as it's a lot easier to bind to the skeleton for animation than the body is.

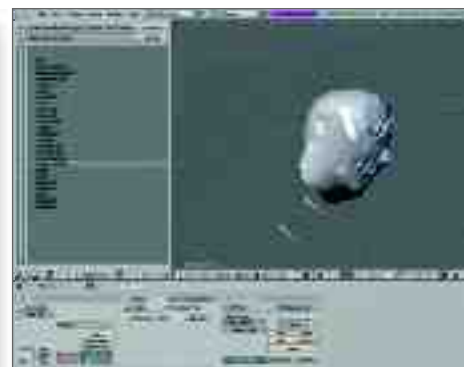
Finally, you'll need the latest patch for *Quake IV* (1.2 as we go to press), which adds unlimited choices in the multiplayer selection screen. The model is complex, so we'd recommend checking the documentation at www.iddevnet.com, especially the sections on .DEF files, which are essential to the process. Grab the 1.2 SDK while you're there, which is a vital resource. **PCF**

Bringing your creation to life

Putting the final touches to a *Quake IV* character



1 Create a project folder, which will eventually become the root of your PK4. You'll need to add some folders to this, the top-level ones being, **def**, **materials**, **textures** and **models**. You'll also need subfolders depending on how you choose to organise your textures and meshes.



2 In *Blender*, load **Head_Rig_pcf.blend** from the disc, then press **[Shift]+[F1]** to open the **Append** window. Navigate to your character blend file, then inside it to select the low-poly mesh. In edit mode, transform your mesh so it matches the proportions of the example head.



6 In *Notepad*, open up your **md5mesh** file, and paste the name of your material (the name defined in the .mtr file, not the filename itself) into the shader variable for the largest mesh (ie: the one with the most verts and triangles in it).

"Getting the mesh and all the scripting right for Quake IV is far from easy"

Modelling a character in Quake IV

Put it all together

Bundle your project as a pk4. At the other end, it's a simple case of dropping the pk4 into the 'q4base' folder to enable the new character, without overwriting any game content.

Pick up the lingo

Learn the arcane ways of the Quake IV scripting language to gain control of the engine's awesome power, and quickly add your own customisation.

Render mender

The powerful Doom 3 engine can render all the detail we've painstakingly created in this series, allowing you limitless scope to produce some great 3D artwork.

ON THE DISC



Blender 3D 2.41

Possibly the world's most exciting open source program. There's almost nothing you can't do with it, from video editing and compositing, to creating 3D games. www.blender3d.org

der_ton's open source MD5 scripts

These complex Python scripts enable blender to export to MD5 format. They are text files, so just import them into Blender's text window, and press [ALT]+[P]. From there onwards it's self-explanatory.

PCF_Q4 Player.PK4

This file is a fully working mod for Quake IV, which contains our character head, along with textures, scripts and bump-maps. Open it in Winzip to see the inner workings, or drop it into Quake IV's 'q4base' folder to see in all its hideous glory.

Tutorial video

If you lack the attention span to read this tutorial, sit back as PCF goes all mixed media in our useful video version of this very workshop.



3

Clear the rotations for the mesh and armature, then parent the mesh to the armature. Select **Name Groups** when prompted to create the vertex groups you'll need. Go into **Edit** mode, and assign all the meshes vertexes to the group named **legs_channel**.



4

Make sure your model is centered correctly (origin at point 0,0,0), then load up and run der_ton's **blender2md5.py** export script. Export an **md5mesh** to your **models** folder. You can store your def, models, materials and textures folder in your q4base folder for quick testing.



5

Examine the supplied .mtr file (in the materials folder). You'll need to make your own version of this, referencing your own textures. Make sure the paths in this file match up to the actual locations of your images, and take note of the name of your shader.



7

Open up the **examplehead.md5mesh**, and use this to fill in shaders for the other meshes in your own model. For example, the collision mesh must have the proper collision shader applied. You'll have to match up numbers of vertexes to get the correct texture on each mesh.



8

Open the two .def files in Notepad. **pcf_zombie_head.def** defines the head for the engine, which is where you must specify your **md5mesh**. **pcf_zombie.def** then takes the newly created **char_marinehead_pcf_deskzombie_mp** and makes it into a valid player.



9

Test your work by running the game as normal. If there's a problem, see if you can solve it by looking at the troubleshooting column on the previous page. If all has gone well, zip up your project and rename the extension to **.pk4** and you're done. Prepare to fight!

Making better macros

Richard Cobbett automates his PC with *Ghost Control*

Are your computer's attempts to make your life easier causing more strain than a bout of RSI? Well, maybe *Ghost Control* can help. It's a powerful macro creation app, capable of automating almost anything that you might need to do with your computer: from backing up files to browsing websites. Once created, these macros can be fired up at a moment's notice, or alternatively, scheduled to save you time.

The benefits are obvious – the scope is rather larger than may initially appear. Other macro tools simply follow the movement of your mouse and keyboard, but *Ghost Control* also gives you frame by frame control over your macro, and complete flexibility to add extra detail and tweaks before declaring the job done. Before starting, it's worth planning out exactly what you want *Ghost Control* to do. By default, it'll automatically be loaded along with Windows, with any macro you create available to bind to a specific hotkey or schedule. You won't want this for everything you do, but should make sure that they'll work comfortably even if the relevant applications or icons aren't in perfect positions. And it goes without saying, but we really don't recommend automatically handling any deletions or other critical applications unless you're absolutely sure the script is correct. **PCF**

"Gives you frame-by-frame control of all macros, and complete flexibility"

ON THE DISC

Ghost Control 2

Create macros and schedule or hotkey their activation with this powerful Windows control system. The excellent editing tools give you completely flexible control.

www.ghost-control.com

Adventure Game Studio

The heavy hitter in the amateur adventure game world. This flexible application was used for such games as *King's Quest 2 VGA* and *5 Days A Stranger*.

www.adventuregamestudio.co.uk

Legendary Tales

Graphics not your thing? Open a whole new tome of text-based RPG with this construction kit. Supports random encounters, real-time combat and more.

www.legendarytales.com

ADRIFT

If you fancy single-handedly reviving text adventures, *ADRIFT* removes almost all the coding problems from the process, and leaves you to create your own unique game.

www.adrift.org.uk



1 With *Ghost Control* loaded, select the **Record New** button to start, followed by **Start Recording**. Try something simple to start with, such as opening the **Start Menu** and clicking an icon on your desktop. An application icon is ideal, because we're going to break this in a second, but anything will do.



3 Instead, create the macro again, but this time press **[F10]**. Recording will pause and *Ghost Control* will display a more involved menu. This time, use the **Run Program** button to load the app, and set it to **Maximized with Focus**. This makes it take over the full screen, removing any problems from other running tools.



5 Visit the **Tasks** menu and click **Create New Task**. Any macro you create can be fired by a Hotkey, or on a schedule – and set to run on a regular basis, a number of times, and with whatever options you might need. Make sure that you don't accidentally choose a hotkey that an application might associate with something else.



2 Run the macro from the **Controls** window and watch what it does. Now try moving the icon and running it again. This time, the cursor will miss the target. Expecting identical conditions is clearly a bad idea, especially with applications like *Firefox*, which are likely to alter the UI environment on a regular basis.



4 Working this way, you can keep track of exactly what's on the screen; there's no guesswork required. It's still best to use keyboard shortcuts instead of clicks within programs, although *Ghost Control* can keep track of windows and positioning. Visit the **Controls** window and choose **Preview/Edit** for a better view of the action.



6 Of course, these keys will only work if *Ghost Control* is running. This is the default setting, so don't change it and you'll have no problem. When closed, you'll see a little **G** symbol on your desktop. You may have to squint, but click it to bring back the main control panel and make any necessary changes on the fly.

Make Linux look better

Alec Meer forsakes delay-riddled Vista for spanky 3D effects in Ubuntu

Vista: expensive, bloated and pretty. Linux: free, lightweight and ugly. If only, we hear you cry, there was some way to make some beautiful hybrid of the two. Well, there is, just so long as you're not hugely attached to Start menus and being hacked four times every second thanks to the gaping orifices in *Internet Explorer*.

VIABLE ALTERNATIVE

Ubuntu, the *PCFormat* distro of choice, is for the most part very simple to use, and the seamless integration of *Mozilla Firefox* and *OpenOffice 2*, plus *Outlook*-a-like *Evolution*, means the only Windows goodie it's lacking is decent game support. But with the advent of XGL, it's now got one over on XP – 3D desktop effects superior to those in Vista or OS X, and ones with nary a noticeable performance hit even on an aged graphics card. Being very much a beta app, installation isn't a cakewalk, but is well worth the effort – if it works, which really isn't a given at this early stage. Check out www.ubuntuforums.org/forumdisplay.php?f=111 if you run into problems. Incidentally, for space reasons this tutorial is for NVIDIA graphics cards only – for instructions on how to do it with ATI cards, check out blog.pcformat.co.uk. **PCF**

"The only principal Windows feature that Ubuntu currently lacks is decent gaming"



1 If you don't have Ubuntu, download it from www.ubuntu.com. It's dead simple to install – the only scary part is ensuring you choose the option to resize and partition your hard drive (if it has an existing Windows install you want to keep) rather than erasing it.



3 If all's gone well, you'll have restarted and are enjoying the latest beta. Time to install drivers for your NVIDIA card – note you'll need a 5200 or better for this. Go to **Applications→Accessories→Terminal** and then type `sudo apt-get install nvidia-kernel-common nvidia-glx`.



2 Next, you need to update Ubuntu to the Dapper Drake version. It won't touch your XP, but it could mess up your old Ubuntu installation, so back up first. Then, press **[Alt]+[F2]** and type `gksudo "update-manager -d"` (including speech marks). Click **check** to update to Dapper.



4 In Terminal, type `sudo gedit /etc/X11/xorg.conf`. Find the **module** section in the document and insert **Load "glx"**, if it's not there. Add **#** before **Load "Glxcore"** and **Load "dri"**. Next, find the **device** section and change **nv** to **nvidia**, and insert **Option "RenderAccel" "true"**.

Enter the third dimension Make your Ubuntu interface spring to life



1 Time to install the 3D effects. Open Terminal and type `sudo apt-get install compiz xserver-xgl libgl1-mesa xserver-xorg libglitz-glx1 compiz-gnome`. Then type `sudo gedit /etc/gdm/gdm.conf-custom`. Paste the content of `gdmconf.txt` from the Linux section of this month's disc into it.



2 Now type `sudo gedit /usr/bin/whizzbang` and paste the following into the resulting window: `#!/bin/bash gnome-window-decorator & compiz -replace gconf decoration wobbly fade minimize cube rotate zoom scale move resize place switcher &` (that's not a grammatical error, incidentally).



3 Make your script executable by typing `sudo chmod 755 /usr/bin/whizzbang` into a terminal, then reboot. Once done, type `xmodmap /usr/share/xmodmap/xmodmap.uk` into the terminal, and finally whizzbang. If it's worked, you'll know. If it hasn't type `metacity &` into a terminal to fix the screen.



4 Now, have a play – grab a window, move it around and it'll wobble like grandma's thighs. **[Ctrl]+[Alt]+[LMB]** lets you rotate a cube containing four desktops, **[F12]** or the top-right corner will present a translucent thumbnail of every open window, and **[Alt]+[Tab]** brings up a live preview of everything.

Missed a Workshop?

The Summer sun's glinting off a massive pile off cutting-edge hardware here in the *PCFormat* offices. If you've missed our reviews of Conroe, Viiv, the latest news on Vista or the highlights of this year's E3 games summit, pick up a back issue of *PCF* today...

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Luis Villazon
HAS A DOOMSDAY DEVICE

Ask Luis...

ALL YOUR PC QUESTIONS ANSWERED

Pub Quiz

Five PC trivia questions, no ice



1 What was Microsoft's first commercial product?

- a) Altair BASIC
- b) QBASIC
- c) QDOS
- d) CP/M

2 Who made the first "portable" computer?

- a) IBM
- b) Osborne
- c) Compaq
- d) Commodore

3 Which OS shipped with the IBM XT in 1983?

- a) DOS 2.0
- b) DOS 3.0
- c) DOS 3.1
- d) Windows 1.0

4 What year was Windows 3.1 released?

- a) 1989
- b) 1990
- c) 1991
- d) 1992

5 How big was the hard disk on the IBM AT in 1984?

- a) 640Kb
- b) 10Mb
- c) 20Mb
- d) 40Mb

Answers on page 136

Free technical support

Got a problem with your PC? Write to Luis, or better still drop him an email. Assuming you can get your PC to work, that is...

pcfhelp@futurenet.co.uk

PCF Helpline
30 Monmouth Street
Bath, BA1 2BW

Don't panic

Like a near-exhausted technology journalist chasing a draconian and unrealistic magazine deadline, Luis Villazon is unable to think of a catchy standfirst



There's an anisotropically filtered jungle out there, so shop carefully.

GRAPHICS CARDS

Budget upgrade

Q I want to upgrade my current system, which is an Athlon XP 3200+ with 1GB of DDR 400, using a Radeon 9800Pro 128MB GPU and an Audigy 2 soundcard. It handles everything but top end games like *F.E.A.R.*, *Doom 3* and the like absolutely fine. I'd like to give the system a bit more graphical grunt as the latest games like *F.E.A.R.* don't like running above 800x600 smoothly and as such look poor on my TFT monitor that has a native res of 1,280x1,024.

I had considered upgrading to an AMD 64 3500+ and an ATI x1800 series GPU, but the budget of a (happily) married man won't really stretch to that. Would an upgrade to something like an ATI X1600Pro (still on the AGP bus) be a significant enough upgrade, given that card can be picked up from an etailer for just over £100 – which I could afford – as opposed to the

sum in excess of £400 which I'd need for a move up to socket 939 and PCI-E?

HOWIE MARSHALL

hmarshall162@btinternet.com

A If your budget won't run to £400 to play your favourite games with all the eye-candy on, then you're just not trying hard enough. I hear this "married man" argument all the time and frankly, I just don't buy it. Wives and children are quite expensive, no doubt about it: I've got four altogether, so I know.

What most people don't factor in is that families suck up far more time than money. As a feckless bachelor, you probably had four or five times the disposable income you have now. But you had at least 20 times as much time to spend it, and so every pound of leisure-money had to go four or five times further than it does now. If you could run *F.E.A.R.* at a resolution to satisfy you, then doubtless you would play

it more. But since you are no longer feckless, your leisure time is tightly constrained, so all those hours playing *F.E.A.R.* are stolen from other leisure activities. Now, if you currently watch a lot of TV then maybe you could convert TV-hours to *F.E.A.R.*-hours, and if that's your situation then upgrading your video card will definitely cost you money. But I long ago shed all my remaining feck, to the point where I don't watch any TV unless I am doing it with my family (and therefore earning brownie points by so doing). So the only way I could increase my gaming time would be to reduce time spent on another leisure activity – all of which cost money. Horse riding costs £18 an hour, flying model rockets works out to around £10 an hour – heck, even in the pub as a designated driver I can burn £5 an hour, easily.

To justify a £400 PC upgrade, I only need to spend about 30 extra hours playing games over the lifetime of the hardware – not even

an hour a week for a year. That, and make sure no one sees the VISA statement but me.

MONITORS

It's all gone dark

Q My monitor blacks out after a few minutes running, but the computer still seems to be working fine in all other respects. I am running Windows XP on a Dell Optiplex CX200. It will run in safe mode but I can't find the config.sys file to see if there is a problem there?

JAMES

christine@brydiancards.com

A Apart from just now, when I checked to see if XP still puts anything in a config. sys file (it doesn't), the last time I opened this file was about six years ago, on a machine that was obsolete then. Even if you had found the file, what would you have looked for? "SET Pointless_monitor_shutdown_delay=120"? It's like buying a Geiger counter without having any idea what the normal background radiation level is. The most overwhelmingly likely reason your monitor is blacking out is that you have a power management setting to time-out the screen. This isn't happening in safe mode because it is controlled by Dell's motherboard drivers that aren't loaded in safe mode. Open the Power Management applet in Control Panel and you'll see a setting to blank the screen after five minutes or something.

Even though this is undoubtedly what is happening on your machine, I am now forced to give you a much less likely explanation to fend off the shrill bleatings from all the naïve readers who refuse to believe that

you could possibly be so thick as to overlook such an obvious thing as power management settings. They don't know you like I do, and they won't be satisfied until I have given your intelligence far more credit than it deserves by suggesting something obscure and technical. So let's see... overheating graphics card? No, still too obvious. How about a relay in the monitor itself that is flipping due to increased heat when running the display at higher resolutions? There's less than one chance in a million that this is actually the cause here but, it has the advantage of *not being your fault under any circumstances*.

OS EROTERICA

Which filing system?

Q I was wondering about FAT32 and NTFS the other day. I did a Google on the idea and came upon quite a few chat forums, but I was wondering what you think about the idea of running a real-world comparison on the two. Would there be a difference in gaming performance, or the difference on file corruption after multiple power failures? So I guess what I'd be trying to establish is how many power failures it takes before a computer won't boot up any more?

JACO ENGELS

jacoe@mweb.co.za

A I'm not going to inflict an exhaustive comparison of filing systems on you any more than I'm going to compare the taste and nutrition of freshly-squeezed apple juice with Apple Tango. Or sunshine with a 40-watt bulb. NTFS is *always* better. There is

only one reason for staying with FAT32 and that is because your operating system doesn't support it. That only applies to Windows 9x and Linux. And there are actually nascent projects to add NTFS support to Linux (such as Captive NTFS), so even that is no excuse. NTFS is faster, more space-efficient, more flexible and far, far more importantly: a great deal more robust. FAT32 is better than FAT16 but that is the only good thing I have to say about it.

EMAIL

Second post

Q I have an annoying problem with Outlook Express. I get two copies of every email in my Outlook inbox. I get double messages, but my wife, who also has an account, doesn't. What the heck's going on. Can you suggest a cure?

ROY MOORE

roy_d_moore@hotmail.com

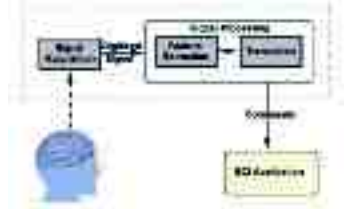
A Normally, the only way to get duplicate emails is for OE to bork in the middle of a corrupted or overlong message. This will abort the download process and since OE doesn't delete the messages off the POP3 server until the last one has been downloaded, they will still be there the next time you hit Send and Receive. I don't think this is happening in your case because this will also prevent you from ever receiving any new messages until the corrupted email is deleted off the server (which you can do with a mail rule) and you'll also get an extra copy of your emails every time you hit Send and Receive. That doesn't quite match up with your description.

Try this for starters: send yourself an email and cc a copy of it to Mrs Moore's Outlook address. If you receive two copies of this and your wife just one then the fault is probably with your email account (or OE identity, if this is how you are doing it). Delete and recreate same. If she receives one copy and you receive none but you get a *third* copy of all of your old emails then I was right from the start and it's a corrupted email sitting on the server. Create a mail rule in Outlook Express to delete all emails on the server without downloading them (Tools→Message rules→Mail – it's quite straightforward, really).

Finally, in the event that you both get two copies but both your wives insist there is actually only one of them, you need to get your glasses

FAQ

Telepathic passwords



The tech's still very flaky, but neural interfaces are coming.

A mind-reading PC?

That's the idea. Researchers at Carleton University in Ottawa, Canada have floated the notion of a user authentication system that can read your brain waves as you think a certain thought. This could just be a word, but it could also be a face, a snatch of music or a memory of the time you were bitten by that doberman when you were five.

Why bother?

Potentially, it's more secure. Even if you wrote down or told someone your "pass-thought", it is hypothesised that no one else would be able to reproduce it because all our brains are wired differently.

Why is this better than biometrics?

Because you can't change your fingerprint or iris pattern. If hackers somehow manage to forge either of these then you wouldn't be able to use them. You could however, change your pass-thought quite easily.

But someone could scan your brain...

Well, perhaps. But all of this is conditional on brainwave scanning being viable. Research on voice recognition has yet to come up with anything reliable enough. Brainwave scanning needs to be able to extract enough data to make your pass-thought unique while ignoring the variations between the different ways you form that thought, according to mood and degree of distraction.

Read more at:
www.carleton.ca

Bedside table

This month, Luis is reading...

Everyware

Author Adam Greenfield Publisher New Riders Price £22
ISBN 0-321-38401-6

With a subtitle like "The dawning of the age of ubiquitous computing", you should be braced for a series of essays about how computers will soon melt away into the fabric of our lives, invisibly collecting, processing, collecting and presenting data to us. As a prediction of the inevitable demise of the desktop computer, it's less than convincing. As an analysis of the challenges such a world would present, it does rather better. But where it really shines, of course, is as a pretentious book to leave lying around on your kitchen counter.



prescription changed, and get more sleep in future.

HARD DISKS

Noisy drive

Q I recently bought a new 250GB Maxtor Plus 10 serial ATA hard disk. Every time the disk is working – when I boot the PC, or even just opening a web page – it makes a grinding noise (and quite a loud constant one at that). Is the hard drive going to kick the bucket soon? I also had quite a few Blue Screen of Death crashes lately, but I am not sure that it is in fact the disk or perhaps other hardware. Could a faulty hard drive be the cause of these crashes? The disk is still under warranty, but I don't want to send it in if it is not actually

faulty, besides it will be like reformatting my PC again.

JACQUES VAN DER VYVER

jacques_vandervyver@yahoo.com

A By itself a noisy hard disk is not necessarily a sign of impending doom. What matters is the trend. The natural range of noisiness of disks is quite large. I have some disks that I can barely feel when I rest my ear on them (and if you have never used a hard disk as a pillow then you just aren't hard core enough), others make enough racket to loosen my fillings from the next room. When a disk gets gradually noisier, this may be a sign of a worn bearing and a dramatic increase in noise is a virtually guaranteed herald of woe. But if your hard disk has always

been just as noisy as it is now, you probably just have a cheap, nasty one made of tin-foil and plastic.

Even if you do have a disk getting progressively or abruptly louder, BSOD is not the normal failure mode. Corrupted documents, yes. Bad clusters that show up on ScanDisk, certainly. Failing to start Windows, quite possibly. But a BSOD is a run-time error in a system file. You could get one if the disk won't reliably read the file due to excessive vibration or something. But you should see corrupted data files at the same time.

any protuberance he could make out on the front panel.

"The good news is I have fixed your problem," I said, cutting the wires to his reset switch. "The bad news is I don't think we can be friends any more."

I'm hoping – praying even – that you aren't quite that stupid but once we rule out stupidity and overheating we are only left with two plausible causes for random resets. Either, you have a loose connection in the reset switch itself and it's tripping from random vibration, or else a faulty motherboard/power supply is

"I daresay that by couching your question in a prayer, you expect favourable counsel. Think again"

Four things you don't ever need to do again

Save time by omitting pointless tasks



1 Defragmenting

File and free space fragmentation used to be a problem. Ten years ago. A very minor problem. Today, it is irrelevant. Most hard disks don't even get filled up, so there is always plenty of contiguous free space available for new files and Windows XP will optimise the few files that need regular access for you anyway.



2 Reformatting

There are a few problems that can only be solved by reformatting your hard disk but they are to be found on page six of the Troubleshooting Flowchart. Reformatting drive C the moment your life starts to feel too complicated is a form of bulimia. And you can reinstall Windows without reformatting, you know.



3 Virus Checking

Polio is a deadly disease, so is small pox. W32. Mydoom.FS is not and nor is almost any other email worm. Virus scanners on the other hand are frequently responsible for low-level system conflicts. Unless you like to open every random email attachment, the cure is worse than the disease.



4 Running a third-party firewall

These cause lots of the same problems as virus scanners and often come bundled with them. You don't need extra firewall software. The one hidden away in Windows XP is already perfectly adequate and the hardware firewall built in to your router will plug the few gaps that it leaves.

Much more likely is that you have an intrinsically noisy disk and a PC that crashes randomly for some other reason. Is there anything that could cause both of these? Well, overheating possibly. Or else the generalised, widespread, endemic rubbishness of your hardware.

MOTHERBOARDS

It's a mystery

Q My computer restarts itself automatically. It can work perfectly well for two or three hours and then it is if someone pressed the reset button. It then starts up and is fine for another few hours. It does not matter what app I am running, it even does it when no one is using it. I have tried running without the case, to prevent overheating but it still occurs. I am running Win98, it has been OK for eight years!

KEV

kevtsuth@tiscali.co.uk

pulling the voltage low on the reset line. Since replacing the motherboard is expensive, I'd still start by disconnecting the wires to the reset switch.

PSU PROBLEMS

Once you pop...

Q A few nights ago I shut down my PC and walked away, only to later hear a loud 'pop', after which I could not turn it on. I checked the fuse of the PSU and it was shot. I put in a 250W PSU and it booted but would not POST. Then, I installed a 350W PSU. When I turned on the PSU, it popped again. This trail of events led me to believe it may be the plug. Tried it on a different plug. Pop. I'm out of PSUs and therefore can gather no further diagnostics. Could it be the board?

DAMIN ASSAD

damin@busisiwe.co.za

A I once knew a friend who told me that their PC sometimes restarted whenever they tried to load a CD. I spend about three hours at their house trying to duplicate the problem with no success – endlessly ejecting and reinserting CDs of various kinds. Eventually, I grew weary and handed over to him to carry on, while I had a Coke. As I was opening the can, the PC rebooted. I got him to repeat exactly what he had done and it turned out that about one time in three, he would press the reset button instead of the CD eject. So he wasn't even consistently hitting the wrong button, he was just randomly stabbing at

A I don't think so. A short in the motherboard could cause a PSU to blow a fuse but you would normally see this when the PC is on. You have a system that only blows PSUs when it is switched off. Now we might still be able to hypothesise a short in the 5V rail that feeds the soft-off switch on the front panel. Except that the 250W PSU managed to switch on. It didn't boot through the POST because it didn't have enough wattage to power up all the drives but the point is that it didn't blow. So... mysterious, then.

There is one more diagnostic you can try: take out everything non-essential that uses power – expansion cards, all disks other than

the master and your graphics card if you also have onboard graphics. Now try booting off the 250W supply. Hopefully the peak wattage is now low enough for the PSU to get you through the POST. If this stripped down system boots successfully all the way up and back down again then that suggests the motherboard is not at fault. Next add a single drive or expansion card back in and reboot. If that works, power down again and swap it for a different one. Keep doing this until the 250W supply blows and when it does, you can bin the last thing you swapped.

GRAPHICS CARDS

Rubbish performance

Q As the avatar of the computer world, I glean all the info I can from your monthly service to us mere mortals, and enjoy your responses with relish. I hope your response to my query is both just and merciful. I have recently upgraded my PC. Here are the specs...

OLD SETUP:

ECS K7S5A motherboard with a 4X AGP capability – FSB 194MHz (according to Sisoft Sandra)
1.26GHz AMD Athlon XP2000
640MB PC2100 RAM
Radeon 9550 Graphics Card

NEW SETUP:

ASROCK K7NF2 – RAID motherboard with 8X AGP capability – FSB 334MHz
2GHz AMD Sempron 2800
512MB PC3200 RAM
Radeon 9550 Graphics card

Bearing in mind my feeble grasp of the workings of the PC, I was expecting to see an increase in performance after the upgrade.

Instead, I find that the 3D Mark 2003 benchmark scores are lower, and some games seem to run slower. Is there an obvious (to you that is) bottleneck in this new setup I have, or do you think I may have a problem with some of the hardware (apart from the fact that it isn't exactly cutting edge material)? I thank you for reading this, and I humbly await a morsel of your infinite wisdom.

COLIN WILLIAMS

hanjam1@blueyonder.co.uk

A I daresay that by couching your question in the form of what can only be described as a prayer, you expect favourable counsel. But let me tell you, Colin, that the only people who pray in a mid-blue Comic Sans font are evangelical Christians and they worship an altogether more merciful God than me. I hate serif fonts as much as the next deity but Comic Sans is a font for people who wear white socks with sandals. There is only one font worse than Comic Sans and that is Jokerman. I never want to receive a letter written in either one again, is that clear?

Moving right along, it isn't clear to me why you upgraded your CPU if you wanted to improve your 3D Mark score. Well actually, scratch that, it is transparently clear – you are the guy that writes in blue Comic Sans, after all. It goes like this; intelligent people (that's me) say "I want to run this game, what graphics card do I need for decent framerates in that? What motherboard will this graphics card need? What CPU can I put in that motherboard?" That's the order – software→graphics card→motherboard→CPU. The socks-and-sandals brigade (that's you) get this exactly the other way around. They say, "I'll change my

CPU for one with a bigger number, what motherboard do I need for that? Have I got any money left over for a new graphics card? Why doesn't my game run any faster?"

DAPPER ADAPTOR Heatsink bling

Q Ages ago, I liked the idea of the flower cooler by Zalman, and it got rave reviews in several magazines. Much later on, I was reading an article in either your mag or another about heat transfer in different metals. I am not sure what the measurement was, but gold was the lowest, aluminium was around 200, copper was in the 300s and top of the pile was silver in the 500s. I started thinking, what if I had the all copper version of the flower cooler silver plated? It took a lot to get it all sorted but I'm here to tell you that I have finally done it.

Do you think this heatsink will transfer heat from a toasty XP3200 CPU any more efficiently, or does it just look nicer?

ELLIOTT

blindedbythedarkness@ntlworld.com

A I'm not even convinced it looks all that much nicer. Silver is a considerably superior thermal conductor than copper, but in all honesty, the tiny layer you have added won't make a significant difference – all you have done is make your sink a bit fatter without increasing its surface area, which if anything makes the sink worse. Changing the surface metal would only be significant if it affected the radiating properties but hardly any of the heat lost from a sink is radiated (it's mostly convected) and silver is a worse radiator because it is more shiny. PCF

VIRUS OF THE MONTH

Rid your machine of the latest bugs



Another laboratory curiosity that you will never see.

Name: Nugache
Aliases: W32.Nugache.A@mm
Type: Worm
Infects: Windows 2003/XP/2000/NT/ME/98/95
Number of outbreaks: <10
Virulence: Moderate
Lethality: Moderate
First detected: 30/4/2006

Symptoms:

Nugache spreads itself through email, instant-messaging and by exploiting a vulnerability in network shares of unpatched computers. Its payload is simply to open a back door on TCP port 8 and then wait for commands from a predefined IRC server. This could be used to mount a denial of service attack, access an FTP server or use your PC as a web server. There are no reports of such an attack ever having been launched and if you have a hardware firewall, it would block traffic on this port.

Prevention:

If your PC is patched using Windows Update, the network share vulnerability will be closed, so the only way to infect your system is by opening the executable sent out via email or IM. The subject line and message body of this is chosen randomly but is of the form "Hey there! Here's that file I promised."

Cure:

Nugache adds two files and two registry keys to your system. These are detailed at www.symantec.com and very easy to remove yourself.

More info:

tinyurl.com/nj2m8





Dell XPS M170
£1,621
p141



Sony Vaio SZ1XP
£1,430
p141



NEC Versa P550
£879
p142



Asus W3J
£1,230
p142



AJP M560A
£1,174
p145



Toshiba Satellite A100-163
£900
p145



Rock Pegasus 650
£1,248
p146



MESH Dynamo 750
£999
p146



MacBook Pro
£1,799
p147



Fujitsu-Siemens Amilo M3438G
£1,099
p147

Power without Poundage

Alex Cox risks long-term damage to his lumber region testing out 10 mid-range laptops. Unless they really are portable, of course...

Ah, the oft-maligned laptop. It was once the domain of substandard equipment, barely able to keep up with the demands of MS-DOS, let alone gaming far in advance of *Solitaire*. From the first 'luggable' spinebreakers the laptop has struggled against the might of machines with more room to breathe, and it's not hard to imagine why. Everything is against the laptop. The relentless pace of change endangers its existence, yet it survives.

The first timeline is processor speed. It neatly ramps upwards, as you'd expect it would, but it also neatly intersects the line for processor heat. Add the generally downward pointing slope of the case size line, and compare it to the 'space left for any sort of cooling' line, and you're in for

some trouble. Add also the 'big hot graphics card' line, and whoa mamma. Something's gotta give. The ideal solution, of course, is somewhere in the middle – an acceptable amount of bulk, a minimum amount of heat, and more power than He-Man. Whether you'll get it or not is another matter, and it's one of the things we're here to find out.

MIND THE GAP

The fact is that the gap between desktop and mobile has significantly narrowed. Graphics performance in laptops is greater than it's ever been. Processor giants are looking at temperature and performance rather than gigahertz and meaningless numbers. Just about every

component that used to require a card has been reduced to a chip, and every chip has been replaced by a smaller one.

These new, sleeker, smaller cases have become little works of art, if you ask us. The abundance of gorgeous machines is one of the main contributing factors to the continuing rise of mobile computing. Gone, at least if you're willing to spend more than £400, are the frankly hideous monstrosities forced on the desperate in the early days. And, as we hope to prove here, are the days when being able to play anything more demanding than Minesweeper meant a portable that actually needed wheels.

What we're looking for here are notebooks that fall into that glorious sweetspot of being

■ good enough to satisfy gaming demands while being portable enough to carry with you and not work a groove into your shoulder.

With smaller cases and better materials should come less weight. Carbon fibre, magnesium alloy and anodised aluminium are starting to become materials of choice, and the extra protection they give your screen

“If you’re still tied to desktop machines for your gaming fix, why not buy a little slice of freedom?”

is an added bonus. They also look fairly cool, so your brand new laptop won’t have you strutting alone around a LAN party like some sort of leper. Admittedly not all of the machines in this test are what you could justifiably

term lookers, but those deemed responsible for this hideous anomaly have been admonished accordingly.

These are not desktop replacements either; battery life is an important factor.

The debate on which kind of screen is truly best for the gamer on the move will forever rage, however. There’s a significant school of thought which suggests the reflectiveness of XBlack-

style screens is, far from being lovely, a huge distraction and a problem for gamers playing in bright conditions.

TOUGH COOKIES

It’s important to point out something else, too: we searched for 10 manufacturers to give us 10 laptops with sub 15-inch screens. We found (after a whole day’s searching, phoning around and interrogating) only six with anything close to a spec that resembles anything close to an acceptable spec for a desktop PC. Small screens and half-decent graphics chips seem to be very unpopular with manufacturers – to which PCF says, what the hell? Have you seen the arms of the average gamer? We tend towards the tender, rather than manifest with muscle. We’ve included a couple of

these leviathan laptops as a comparison, for benchmarking power, but they’re here on one proviso: you’re only to carry them around when you want to take your gaming somewhere else. They’re not toys you can just kick into your bag and forget about, they’re precious items of gaming pleasure, to be left safe and sound at home, if at all possible.

We have, of course, left the most important point until last. The three dimensional world of modern PC gamery requires special hardware, and these machines have it. We’ve collected examples across the board, from the relatively low-end X700’s (which seem rather popular) to X1600s to the daddy of them all the (soon to be updated) 7800GTX which nestles between the rigid sheets of Dell’s latest XPS. The mobile versions of these cards are noticeably weaker than their desktop equivalents, but they’re still phenomenal.

There is just one last point which you do need to consider, though. Laptops, by their nature, use LCD panels, and they tend to be higher resolution ones than their desktop equivalents. Not one of these machines, barring the XPS, will be good enough for games at their native resolution, so we stress that vital point once again – they’re not desktop replacements. These are for those who need a PC on the move, but also want to play a spot of *Oblivion* on the train – using save games they created at home.

HOW WE TESTED

Buying the right laptop isn’t just about choosing the highest spec. Build quality and mobility are vital criteria, too



Weight

Will your shiny new laptop cripple you for life? We hope not. As well as carefully weighing each of these machines, we gave them scientific lifting tests – first with one hand, from a corner of the keyboard, followed by being stuffed into a bag and slung over a shoulder. If it’s too big for a bag, it’s too big for us.



Battery Life

While you likely won’t be using these machines on batteries much, it would be very sad if you couldn’t take your games out in the garden now and then. With this in mind, we stretched the processor all the way, looping a 1080i HD video running from the hard disk and pushing the screen to full brightness.



Screen

The screen is super-important – it needs a good viewing angle for displaying badass gaming skills to friends, a good trade off between size and visibility, and perhaps a dense resolution. Ultimately, the screen just needs to be clear, but does clear mean an XBlack coating or can you get away with something more traditional?



Gaming

Since the crux of this Supertest is gaming, we sat down and shot some monsters. Does the keyboard respond well? Is the graphics card up to scratch? Has the overall combination of case, screen and pixel-pushing power resulted in a quality end product? All benchmarks are at default settings of 1024x768.

Which size is right?

Do you really *need* a massive screen?



It’s very difficult to choose a gaming laptop based on screen size alone. You’ll inevitably get something which is far more portable, but that minuscule screen could prove your downfall in a high speed gaming session. Or, you’d think it could. But we’ll look at everything in this test – from the 13.3” viewport of the Sony Vaio to the dominating 17” screens of the XPS and Amilo – and we’re unlikely to find much difference in terms of actual playability. Get a bit closer if the screen is too small, because the real difference is in the quality and depth of darker colours.

Ever since Sony rolled out the first XBlack screen a few years ago, the race has been on to coat just about every panel on the market in high-contrast darkness. Around half of these machines are no exception, and the difference is generally astonishing.

Playing games on a high-contrast screen is really good fun, because the usual LCD haze is inevitably replaced by something that’s well-hit enough to do your favourite games justice. You can actually see what you’re doing for once!

Our advice to you is to ignore the screen size as much as possible, unless you’re going to carry that precious purchase around regularly. Selecting PCs based on quality rather than lack of inches is a better idea.

A 19-inch widescreen laptop may still prove to be impractically heavy.



Dell XPS M170

Price £1,621 **Manufacturer** Dell **Web** www.dell.com

This is the meatiest candidate in the whole test, and if that surprises you, perhaps you need examining. Dell's XPS machines have always been big-boned powerhouses, and this latest machine – now toting the venerable mobile version of the 7800 GTX – is certainly no exception.

The M170's thick case is, if you can forgive the slightly cheesy finish on the lid, not a bad thing. Maybe it's because it's so slathered in lights, configurable to whatever colour you choose. Perhaps it's the rounded edges and super-sturdy construction. Whichever it is, we imagine a legion of chiropractors is rubbing its hands in glee, because the M170 appears to be made of elephants when you pick it up. It's built like a tank, and caterpillar tracks would certainly be a useful addition.

That bulk is obviously being put to good use, though. With a ninja processor and a high-end graphics card, the M170 blitzed everything

DETAILS

Processor
Pentium M 2.13

Memory
1GB

Graphics
Geforce 7800GTX

Screen
17" Wide

Max resolution
1,920x1,200

BENCHMARKS

Battery life 100 minutes

3DMark 06 3,454

Quake IV fps 78

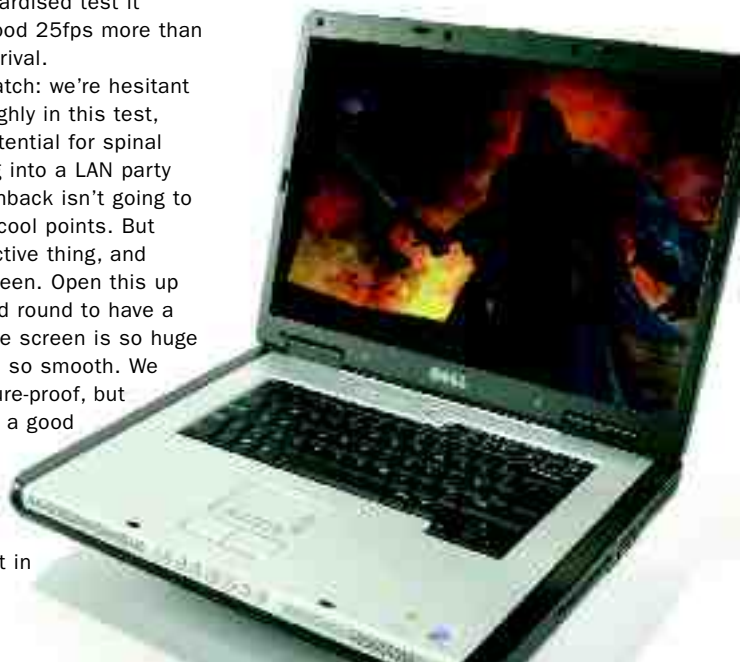
PCMark overall 3,724



else in the competition. Even with everything ramped up at the native 1,920x1,200 *Quake IV* ran smoothly, and in our standardised test it churned out a good 25fps more than even its closest rival.

Here's the catch: we're hesitant to mark it too highly in this test, based on the potential for spinal damage. Walking into a LAN party bent like a hunchback isn't going to score you many cool points. But power is a seductive thing, and seduced we've been. Open this up and people crowd round to have a look, because the screen is so huge and the graphics so smooth. We wouldn't say future-proof, but this will give you a good five years of pleasure. If you can afford it, you owe it to yourself to invest in an M170.

84% **PCF says...** "Hugely hefty but ridiculously powerful: a muscular gamer's dream."



Sony Vaio SZ1XP

Price £1,430 **Manufacturer** Sony **Web** www.sony.com

Calling the Vaio small doesn't really do it justice. There's just about room (and we're talking a millimetre or so on either side) for the full-size keyboard, and the lid is without question the thinnest we've ever seen. It's made of nigh-on indestructible carbon fibre, which probably explains the daintiness of the construction. The prettiness continues once you fire it up – Sony's XBlack screens are a joy to behold, with a stupidly high contrast ratio and unmeasurable clarity on show.

13.3 inches isn't a tremendous amount of real estate to display your favourite games on, though. Sit the SZ1XP next to the Dell XPS and you'd start to feel a little envious – while the quality of the panels is very similar, the difference

in size is remarkable. Of course, this does make the SZ1XP far more suitable for carrying around. The combination of an incredibly strong body in an unassuming case begs to be thrown into



DETAILS

Processor
Core Duo 1.83

Memory
1GB

Graphics
Geforce 7400

Screen
13.3" Wide TFT

Max resolution
1,280x800

BENCHMARKS

Battery life 145 minutes

3DMark 06 770

Quake IV fps 36.5

PCMark overall 3,488

a bag and carted elsewhere. With a stressed battery life in excess of everything else on test, we're erring towards declaring this as the ultimate portable gaming laptop.

Or, we would be. But the Vaio's 3D performance is only lukewarm, thanks to its size and basic graphics chip, and the price is too high to consider it an everyday machine. Like the XPS this is a machine made specifically so that people can spend lots of money on it. It's Paris Hilton; it certainly looks nice (if a little skinny), but it costs a bomb and generally seems a tiny bit bored. Viral porn references aside, in the context of this Supertest – and also due to our slightly lustful feelings – we like the VAIO, for its looks and portability. Its games performance leaves a lot to be desired, however.

79% **PCF says...** "Sexy it may be, but at this price, and with this lack of performance, no game."

NEC Versa P550

Price £879 **Manufacturer** NEC **Web** www.nec-online.com

Close, NEC, but no cigar. The Versa P550 is a perfectly acceptable laptop, but it's a long way out of its depth here. The look should give you clues straight away. While the Sony machine includes a fingerprint reader as something of an excellent extra, the inclusion here gives a distinctly businessy air. That generic silvery case isn't built for impressing friends: if anything, it's made for straight-up, sturdy, road-warrior efficiency.

Still, if you can convince your employer to buy one of these you'll at least be able to play a bit of WOW on the road. There's nothing outstanding about the Mobility Radeon X300 inside; it choked its way through 3DMark 06, and that bottom-end Pentium M didn't help it through the rigours of PCMark. But *Quake IV* – full detail and all – managed a passable 21.6 FPS, and cutting the niceties saw a jump to 45fps. That's playable, at least.

The Versa was also one of the few machines in the test to hit two hours

DETAILS

Processor
Pentium M 1.73

Memory
2GB

Graphics
Radeon X300

Screen
15"

Max resolution
1,400x1,050

BENCHMARKS

Battery life 120 minutes

3DMark 05 fps 143

Quake IV fps 21.6

PCMark overall 2,560

battery life, so it scores those faintly irrelevant portability points despite also being one of the heaviest units here. The HD video test was a piece of cake, though XP performance felt a little sluggish – strange for a machine sporting 2GB of RAM. Unfortunately we're struggling to drag out any real gaming positives. The keyboard feels a little stiff, and even the USB ports are poorly placed on the left hand side.

But then there's the price. It's enormously cheap, almost half the price of a few of the more expensive candidates, and it's definitely a functional laptop. If you're not looking for longevity – maybe you want an expendable PC for rough and tumble LAN play – then throw your money NEC's way.

70% **PCF says...** "It's cheap, but lacks power. Gaming output was quite disappointing."



Asus W3J

Price £1,230 **Manufacturer** Asus **Web** www.laptopsdirect.co.uk

We don't know if anyone else has noticed (though we're willing to suggest there are a few engineers in Taiwan who have), but Asus seems to be aiming its designs squarely at folks who can't or won't afford Sony laptops. Against the SZ the W3J is like a broad-shouldered, possibly illegitimate big brother, with the same dark looks (it's made of aluminium alloy rather than carbon fibre) but a lot more muscle behind it. It's flexing a 512MB X1600 set of pythons in your puny face, Sony.

Our test results didn't let us down – that card is strong enough to kill an ox, and was one of the few in the test to reach higher than 2000 3DMarks. *Quake* poured from the high-contrast screen like a fast-forward festival of death,

and we think we heard PCMark give an audible gasp at the swiftness of the innards. There's not even a great weight disadvantage – 2.2Kg isn't much of an effort to lug around, although it's a



DETAILS

Processor
Core Duo 1.83

Memory
1GB

Graphics
Radeon X1600

Screen
14" Wide

Max resolution
1,280x768

BENCHMARKS

Battery life 115 minutes

3DMark 06 2,046

Quake IV fps 48.9

PCMark overall 3,979

machine that looks lighter than it actually is.

Although the W3J doesn't quite reach the lofty heights of the true power laptops elsewhere in this test, it crams more into its small shell than seems possible. The 14" widescreen is a configuration we've rarely seen, and it feels perfect for scrunched up laptop gaming. It's blacker than black, bright and fast, and the tiny bezel leads to an unobtrusive footprint.

This is a real taste of luxury portable gaming. From the screen to the graphics card to the sturdy build, the W3J is the complete package, and a perfect lappy for gaming on the move. It even managed to clock up two hours of battery life, so you could quite easily get so engrossed in a bout of train-based *Oblivion* that you missed your stop.



91% **PCF says...** "Dense, but it's small, swift, and positively reeking of style. Excellent."



AJP M560A

Price £1,174 **Manufacturer** AJP **Web** www.ajp.co.uk

PCF is idealistic at the best of times, but even we know that an enormous screen with a eye-bleedingly fine resolution does not necessarily make an XPS-beater. The fact that the M560A can manage 1,920x1,200 makes us unhappy, more than anything: why couldn't the panel be lit properly? Compared to everything else on test it's patchy and dull, a real shame given the laptop's undeniable potential. Perhaps it has something to do with the generic Clevo chassis – we've seen a lot of machines with the same design suffering similar problems.

You do get a tasteful orange clock for your money, as well as a webcam built into the top of the monitor, but these things are mere niceties. The real joy comes from the inside – a Mobily X700, a 2GHz Pentium M, 1GB of DDR2, and a 7,200RPM drive combine to make a true high-end machine. While the X700 lacks the extra muscle that makes modern cards so spiffy, the M560A positively ripped through our *Quake IV*

DETAILS

Processor
Pentium M 2.0

Memory
1GB

Graphics
Radeon X700

Screen
15.4" Wide

Max resolution
1,920x1,200

BENCHMARKS

Battery life 110 minutes

3DMark 06 770

Quake IV fps 46

PCMark overall 3,076

test, booted with no discernable problems and ran smoothly.

We were worried about the HD video test, though – it ran fine when hooked up to power, but as soon as we pulled the cable the video jerked and stuttered. Whatever the reason, the AJP still hung on well, lasting a shade under two hours. For a PC with such a large screen, that's a very good result, though if the screen is only being lit by a single floodlight we can understand it.

For the price you're unlikely to get much better, at least for the moment. Hang on three months and you will get better, and you'll also have saved up a bit more money. Although the M560A isn't a disaster, it isn't the biggest hit, and that screen is tough to commend amongst the competition.

72% **PCF says...** "Block out the washed-out screen and you're on to a winner."



Toshiba Satellite A100-163

Price £900 **Manufacturer** Toshiba **Web** www.askdirect.com

Hot competition can make some laptops – machines which would otherwise appear gargantuan – look pathetic by comparison. Take the Tosh, for example. It's got a nice enough case, a passable screen, and it's light enough to carry. The specs are decent, and the price is more than manageable. We like it, up to a point. There's nothing here that really makes us salivate, though.

Unremarkable is as unremarkable does, and Toshiba's latest effort rumbled through our tests with a minimum of flair. We'd expected a little more out of the combination of 1GB RAM, a Core Duo and a Mobility X1400 inside. Despite a strong showing in *PCMark*, the A100 couldn't quite bring itself to a decent *3DMark* score, though it easily

bested machines with X700 cards. *Quake IV* performance was even worse, only just topping the NEC.

The keyboard layout is also slightly irritating – it's not full size,

DETAILS

Processor
Core Duo 1.66

Memory
1GB

Graphics
Radeon X1400

Screen
15.4" TFT

Max resolution
1,280x800

BENCHMARKS

Battery life 100 minutes

3DMark 06 802

Quake IV fps 29.1

PCMark overall 3,076

even though the 15.4" widescreen means the unit is big enough to fit a full size one. If you're a touch-typist (or touch-gamer, even) you will spit and you will swear, and you may fling the 2.72Kg A100 against something hard. It's light enough for flinging.

Its low scores and frustrating layout really put this latest Satellite firmly in the 'only if you can't afford anything else' category, at least in terms of this test. It can certainly offer a good showing on the lower end of games, and the desktop performance is naturally enhanced by the Core Duo. But you'll only end up playing *Oblivion* with the shiny bits turned off, and there's nothing more pointless than that. Save up the extra £200 and plump for something with a little more muscle.

67% **PCF says...** "Don't let this lure you into thinking it's a gaming laptop: it truly isn't."





Rock Pegasus 650

Price £1,248 **Manufacturer** Rock **Web** www.rockdirect.com

One of the key reasons to buy a laptop is to impress mates. Turn up for a fragging session with a steam-powered lappy and you can kiss your cred goodbye. Arrive with something shiny and powerful, however, and you're in. Props go out to Rock, then (as 'the kids' are saying these days) for tricking this laptop out with a custom painted lid. Ours was a fearsome red hue, and for a £50 upgrade there's even the option of colour changing chameleon paint.

If that all sounds a bit *Pimp My Ride*, it should – this is a bog standard Uniwill chassis, tarted up Rock-style. We applaud the fact that Rock has done something a little special unlike case curmudgeon MESH, and the insides match the outsides, too – this isn't your bog standard laptop.

The Pegasus' display is a fairly special (not to mention gamer-friendly) 1,680x1,050 widescreen, and while 15.4 inches (and 3Kg of bulk) makes one of the more cumbersome lumps

DETAILS

Processor
Pentium M 2.13

Memory
1GB

Graphics
GeForce 6600

Screen
15.4" Wide

Max resolution
1,680x1,050

BENCHMARKS

Battery life 85 minutes

3DMark 06 1,198

Quake IV fps 53.1

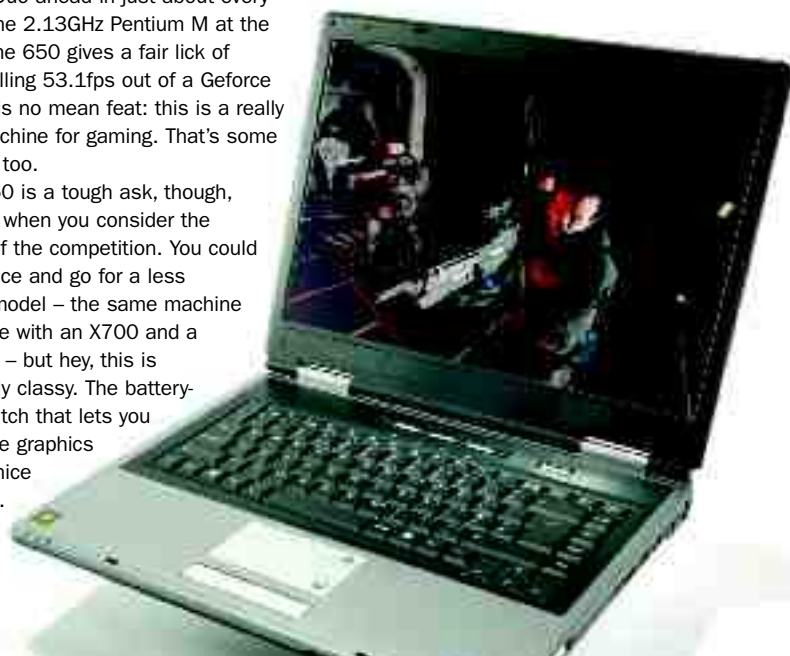
PCMark overall 3,186

here, the clear lighting and luscious contrast makes it worth it.

Even though PCMark's tests show the Core Duo ahead in just about every respect, the 2.13GHz Pentium M at the heart of the 650 gives a fair lick of speed. Pulling 53.1fps out of a GeForce Go 6600 is no mean feat: this is a really strong machine for gaming. That's some fast RAM, too.

£1,250 is a tough ask, though, especially when you consider the strength of the competition. You could cut the price and go for a less powerful model – the same machine is available with an X700 and a boring top – but hey, this is surprisingly classy. The battery-saving switch that lets you turn off the graphics card is a nice touch, too.

81% **PCF says...** "The MESH is £250 less, and almost as powerful when running games."



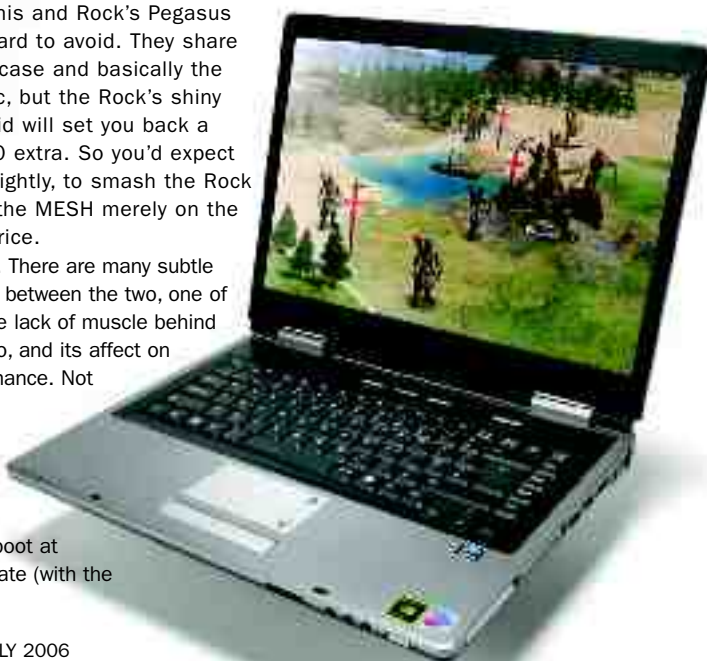
MESH Dynamo 750

Price £999 **Manufacturer** MESH **Web** www.meshcomputers.com

Not everyone can be entirely original. MESH is one of the few (along with Rock) that build laptops from stock parts and chassis, and the comparisons between this and Rock's Pegasus 650 are hard to avoid. They share the same case and basically the same spec, but the Rock's shiny laquered lid will set you back a huge £250 extra. So you'd expect us, quite rightly, to smash the Rock and deify the MESH merely on the basis of price.

But no. There are many subtle differences between the two, one of which is the lack of muscle behind the Dynamo, and its affect on the performance. Not that it's particularly noticeable in practice – both machines boot at the same rate (with the

MESH a hair quicker), both feel slick and comfortable to use, both open programs with a minimum of fuss. But the low-end Pentium M doesn't quite give the same grunt: you'll lose fps in *Quake*, for sure.



DETAILS

Processor
Pentium M 1.86GHz

Memory
1GB

Graphics
GeForce 6600

Screen
15.4" Wide

Max resolution
1,680x1,050

BENCHMARKS

Battery life 75 minutes

3DMark 06 1,191

Quake IV fps 52.9

PCMark overall 2,946

The 6600 remains a great addition to any laptop, and it certainly doesn't disappoint here. Though a shade behind the Pegasus (it's that processor again) it was one among the strongest of all the laptops in this month's Supertest. Battery life, though, wasn't really on its side – apparently, the downfall of this NVIDIA card

Despite being guilty of decidedly thirsty power consumption, this is an entirely decent gaming laptop on most fronts. Other laptop manufacturers aren't to be overlooked, it seems, and this is at least an attractive stock case with some killer innards. It's not very light, it's not astoundingly pretty, but it's also not overly expensive, and it'll handle whatever you throw at it. It's in the lead merely in terms of price, but only by a piffling amount.



82% **PCF says...** "The performance is phenomenal, and this won't let you down."



Apple MacBook Pro

Price £1,799 **Manufacturer** Apple **Web** www.apple.com

Heresy! What's this doing here?

Running Windows in a cack-handed way, by the look of it. Since the Mac is no longer forbidden fruit to us PC heads, it's a good consideration as a gaming laptop. The new MacBook packs a Mobility X1600 and a Core Duo, so you'd expect it to lay waste to everything in its path.

Looks-wise, we can't complain – everything is Appletastic and swish, and the excellent 15.4-inch panel stands up even against the XBlacks elsewhere in the test. The wacky Magsafe adaptor is a nice touch too, but all that good design has caused some other issues. The top of the keyboard, in particular, appears to be channelling heat straight from the sun when under processor pressure. Actually using Windows on a Macbook is utterly frustrating, because the keys aren't where they should be – if they're there at all – and there's no right-click on the trackpad. Bah.

Under testing, the MacBook utterly folded: we'd heard so much, and yet it

DETAILS

Processor
Core Duo 2GHz

Memory
2GB

Graphics
Radeon X1600

Screen
15" Wide

Max resolution
1,440x900

BENCHMARKS

Battery life 105 minutes

3DMark 06 1,020

Quake IV fps 29.4

PCMark overall 3,310

ended up achieving very little. With an X1600 and 2GB of RAM, it should top the W3J, which has the same card but half the RAM. In fact, we found MacBook performance to be half that. Maybe it's a driver issue, maybe there's something more to it. Whichever it is, it's an enormous disappointment.

The clear message from our experience is that if you want a Mac, go ahead, buy one, but not for PC gaming. Forget the fact that the hardware is technically the same – this is still a Mac. Running Windows XP on one feels a bit wrong. You're much better suited with a machine that's made for what you're trying to do, and there's a whole selection here that deserve your attention far more.

70% **PCF says...** "Unless you want to use OSX, buy yourself an XP-based laptop instead."



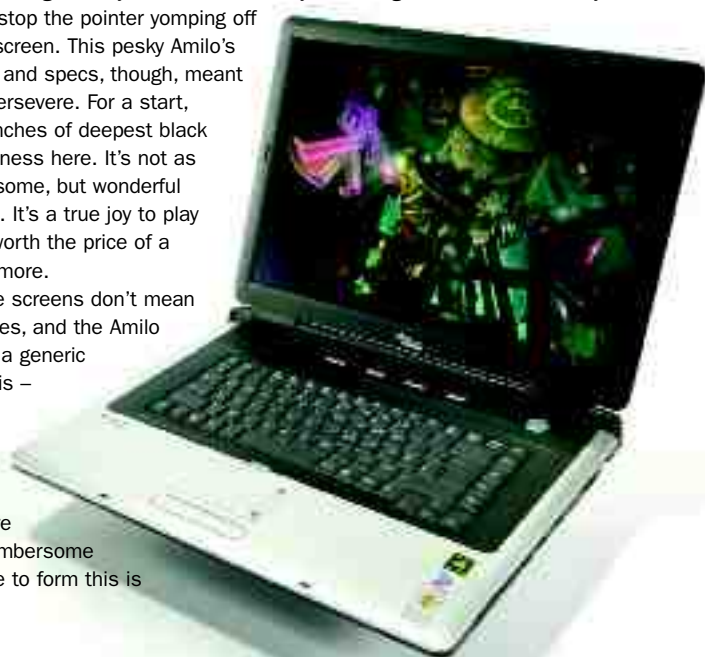
Fujitsu-Siemens Amilo

Price £900 **Manufacturer** Fujitsu Siemens **Web** www.fujitsu-siemens.com

The first hour you spend in a new laptop's company should not, ideally, be spent wrestling with a recalcitrant trackpad, straining every sinew and cursing under your breath in an effort to stop the pointer yomping off around the screen. This pesky Amilo's build quality and specs, though, meant we had to persevere. For a start, there's 17 inches of deepest black screen goodness here. It's not as high-res as some, but wonderful nonetheless. It's a true joy to play games on, worth the price of a mouse and more.

Obscene screens don't mean lean machines, and the Amilo – housed in a generic Clevo chassis – does indeed have a few bricks in it. 17" machines are generally cumbersome too, and true to form this is

an awkward thing to chuck about: it didn't fit in a standard TechAir geek satchel, for instance, and it has a huge footprint. Only consider a 17" screen if you don't get out much, basically. Thank



DETAILS

Processor
Pentium M 1.73GHz

Memory
1GB

Graphics
GeForce 6800

Screen
17" Wide

Max resolution
1,440x900

BENCHMARKS

Battery life 100 minutes

3DMark 06 2,133

Quake IV fps 62.4

PCMark overall 2,899

goodness, then, for the performance under the hood. 3DMark was veritably murdered by the GO 6800, an excellent chip if ever there was one, even in mobile form. This model isn't accompanied by a similarly hefty processor, though, and the Pentium M 1.7GHz wasn't helped through PCMark by a slower hard drive than the rest. But the name on the tin is gaming, and pish to the processor if you're rocking 60fps in Quake IV.

So, if you can forgive one bit of defective pointing technology, you're on to a winner with the Amilo. We can't quite award it full marks – because it's enormous – but there's even something alluring about the by-the-numbers case. If you need a gaming laptop that stays in one place, we definitely recommend you treat yourself.



80% **PCF says...** "Wide and heavy, but extremely reasonable on the wallet."

SPECIFICATIONS AND PERFORMANCE

All the details and small print you need, in one table

	£879	£900	£999	£1,099	£1,174
	NEC Versa P550	Toshiba Satellite A100-163	MESH Dynamo 750	Fujitsu-Siemens Amilo M3438G	AJP M560A
	70%	67%	82% 	80% 	72%
					
WEIGHT	2.9Kg	2.72Kg	3.2Kg	4.1Kg	3.4Kg
WEBSITE	www.nec-online.com	www.toshiba.co.uk	www.meshcomputers.co.uk	www.fujitsu-siemens.com	www.ajp.co.uk
CPU	M 1.73	Core Duo 1.66	Pentium M 1.86	Pentium M 1.73	Pentium M 2.0
RAM	2 GB*	1 GB	1 GB	1 GB	1 GB
GRAPHICS	Radeon X300	Radeon X1400	GeForce 6600	GeForce 6800	Radeon X700
HARD DRIVE	80GB	80 GB	100 GB*	80 GB	100GB*
OPTICAL	DVD-RW	DVD-RW	DVD-RW	DVD-RW	DVD-RW
CHASSIS	NEC	Toshiba	Uniwill	Clevo	Clevo
SCREEN	15"	15.4 TFT	15.4" Wide	17" Wide	15.4" Wide
MAX RESOLUTION	1,400x1,050	1,280x800	1,680x1,050	1,440x900	1,920x1,200*
BATTERY LIFE (STRESSED)	120	100	75	100	110
3DMARK06	143	802	1,191	2,133	770
QUAKE IV FPS	21.6	29.1	52.9	62.4	46
PCMARK OVERALL	2,560	3,076	2,946	2,899	3,076
PCMARK HDD (MB/S)	3.704	3.715	4.032	4.034	4.754*
PCMARK VIDEO ENCODING (MB/S)	135.18	263.761	141.859	121.183	142.665
PCMARK IMAGE DECOMPRESS (MPIXELS/S)	10.986	19.734	11.776	9.729	11.556
PCMARK FILE ENCRYPTION (MB/S)	11.494	32.141*	12.024	10.633	12.179
PCMARK HDD VIRUS SCAN (MB/S)	14.245	12.314	8.165	6.986	18.668

PCFVerdict

We boil down the results to a tasty broth

This has been a collection full of surprises. Going into the Supertest we'd fully expected the Dell to romp home, and it certainly impressed in terms of test results. But our predilection for portability has severely influenced these scores. We couldn't possibly give such a heavy machine a Gold Award. Fujitsu Siemens' offering suffers the same fate – it doesn't have the same amount of power, and it's just as heavy. There's something about that price,

though, which has drawn us in. Besides, a big laptop isn't a great disadvantage, as we've discussed: if it's good enough to run your games, it's good enough for a purchase.

It's not as if the smaller machines have been strong leaders either – our gold award winners mainly top the 3Kg mark, with only the W3J weighing less. Rock and MESH's efforts are both excellent PCs for gaming, and they strike the balance between size, price and power that

seems to be the key to a good gaming lappy. Though we were looking for smaller, we now deem 15.4" the king of screen sizes. Not that we're taking Asus' 14" widescreen for granted, of course – it too is a wonderful size.

So while Rock and Mesh have the price, and Asus has the perfect size and weight, there are others which lag behind a little. Sony's Vaio is tremendously desirable but slightly overpriced;

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GX2 COMPARE TO
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PCFormat

£1,248
Rock Pegasus 650
81% **top gear**
PCFormat

£1,430
Sony Vaio SZ1XP
79%

£1,621
Dell XPS M170
84% **top gear**
PCFormat

£1,799
Apple MacBook Pro
70%


2.2Kg	3.2Kg	1.7Kg*	4.2Kg	2.5Kg	WEIGHT
uk.asus.com	www.rockdirect.com	www.sony.com	www.dell.com	www.apple.com	WEBSITE
Core Duo 1.83	Pentium M 2.13	Core Duo 1.83	Pentium M 2.13	Core Duo 2.0*	CPU
1 GB	1 GB	1 GB	1 GB	2 GB*	RAM
Radeon X1600	GeForce 6600	GeForce 7400	GeForce 7800GTX*	Radeon X1600	GRAPHICS
100 GB*	80 GB	100 GB*	100 GB*	100GB*	HARD DRIVE
DVD-RW	DVD-RW DL*	DVD-RW DL*	DVD-RW DL*	DVD-RW Superdrive	OPTICAL
Asus	Uniwill	Sony	Dell	Apple	CHASSIS
14" Wide	15.4" Wide	13.3" Wide TFT	17" Wide	15" Wide	SCREEN
1,280x768	1,680x1,050	1,280x800	1,920x1,200*	1,440x900	MAX RESOLUTION
115	85	145*	100	105	BATTERY LIFE (STRESSED)
2,046	1,198	770	3,454*	1,020	3DMARK06
48.9	53.1	36.5	78*	29.4	QUAKE IV FPS
3,979*	3,186	3,488	3,724	3,310	PCMARK OVERALL
3.273	4.19	3.682	3.828	3.464	PCMARK HDD (MB/S)
282.147	150.834	256.581	155.755	297.205*	PCMARK VIDEO ENCODING (MB/S)
21.863	11.925	21.898	12.386	23.591*	PCMARK IMAGE DECOMPRESS (MPIXELS/S)
25.824	12.829	18.685	13.209	17.606	PCMARK FILE ENCRYPTION (MB/S)
22.42*	13.704	5.659	11.268	15.399	PCMARK HDD VIRUS SCAN (MB/S)

the MacBook is a huge disappointment in terms of Windows performance; and the less said about those efforts from *AJP*, Toshiba and NEC the better.

But we know you. You'll buy based on price alone. You don't care about luxurious casing and gimmicks. We encourage you to think a little more carefully. Even though the MESH is a relative bargain at a grand, its power isn't going to carry over well to the next generation of gaming. If polygon-pushing is on your mind, it's definitely worth shelling out a little more for something that you know is going to last.

And that's the W3J. With a great card, great weight, outstanding styling and an achievable

price, it stands over the rest and giggles menacingly. We can't wait to see what Asus has up its sleeve next. If it's even close to this machine, we may well have another outrageous consumer electronics purchase to explain to a very unimpressed bank manager. **PCF**



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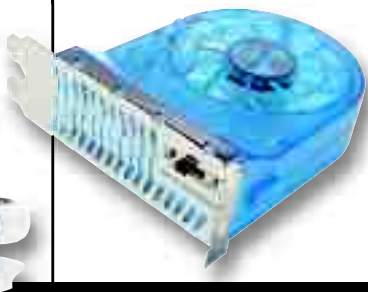
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Restart

IT'S, Y'KNOW, THE OLD STUFF

Original SiN

REDISCOVER The FPS that time forgot. But is it a *Daikatana* or a *Half-Life*?

With our review of *SiN Episodes – Emergence*

fragging up a storm on p94 of this very issue, it's a fine time to take a look back at the first *SiN*. On release, it was all but immediately forgotten, thanks to an unfortunate double whammy of going head-to-head with a little number called *Half-Life* and being more bug-riddled than a hobo's Alsatian.

In reality, it was a reasonably competent shooter undermined by chucklesome character design (check out the gimpy jazz enthusiast's beard on hero John R Blade, or the tragically misogynistic decision to dress villainess

Elexis Sinclair in fetish gear). But it did carry one trump card: the *SiN*city level, the first-and-only Escher-inspired multiplayer map we've ever seen. Revisited in the office thanks to *SiN*'s appearance on Steam, it's a fascinating affair to this day – step through a door and you'll appear on a different plane of the map, and thus to other players might appear to be running along a wall or jumping across the ceiling. It's surreal and confusing, but genuinely requires a different sort of tactical thinking – how do you shoot a man who's just appeared from nowhere and is running across the ceiling?



No, we haven't printed this pic upside down...

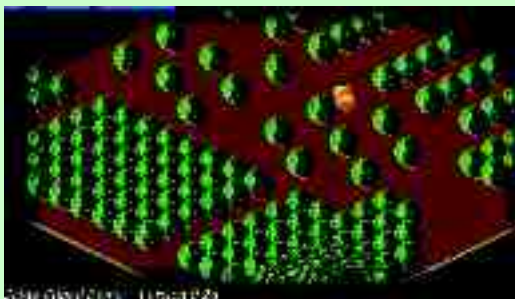
FALSE PROPHETS

"IT'S CAPABLE OF STORING 200MB ON A 3.5-INCH DISK... NOT ONLY THAT, BUT IT'S FAST, WITH A TRANSFER RATE OF 3.6MB PER SECOND." HYPING THE ILL-FATED HIFD DISKS IN PCF77, WHICH EVENTUALLY SUFFERED A FULL PRODUCT RECALL AFTER TRANSFER RATES DROPPED INTO THE LOW KBS.

Voxelpops

Remember voxels? Course you do – they were 3D variants of pixels that offered an alternative to 3D acceleration in the Nineties.

The results were hideous, but the voxel has been resurrected for a bizarre purpose – recreating the original 8-bit *Legend of Zelda* in 3D, and all in a webpage. The erstwhile flat map is now rotatable and has palpable depth, while another demo has the realm of Hyrule rendered as a spinning, bump-mapped sphere. Gleeful experimentation, we call it.



Get more info at pages.infinet.net/voxel/zeldacubed.htm

Drive time

REINVENT Dead drives given new life by enterprising timekeeper

Are your cupboards full of old, outdated PC kit, just like ours? Why not take a leaf out of extreme modder Alan Parekh's book, then? Parekh's old hard drive may no longer be able to dish out data, but it can still spin. In a masterstroke of invention, he rigged red and blue LEDs under the platters that flashed at just the right speed to display positionally correct clock hands of light, seen through a hole in the top platter. The red 'hand' shows the hours, the blue minutes, and a purple combination of the two seconds. The final result needs to be viewed in a relatively dark room to be visible, but gives a suitable Eighties disco vibe as a result. A fiddly project to complete and no mistake, but hey, it beats those tacky £5 CD clocks so often found at craft fairs the world over. Screenshots, videos and an updated version of the project can be found at hackedgadgets.com.

Next month, we'll show you how to turn your old monitor into a fishtank. Honest.



"BEFORE WE STARTED WORKING ON ARX FATALIS, WHAT WE REALLY WANTED TO DO WAS A PROPER VERSION OF ULTIMA UNDERWORLD 3."

Christophe Carriere, Sound Lead, Arkane



REMEMBER...

Carmageddon caused quite a stir in its day and certainly left its stain in gaming history, a large, bloody skid-mark shaped stain...

Carmageddon caused a massive outcry when the demo was released. There were plenty of voices calling for the game to be banned when parents saw it declare bonuses for splattering old ladies on the pavement. In the end all that happened was the installation of an (easily removed) patch that changed human bystanders into zombies. And that makes sense – protect the children from killing innocent people by letting them kill pus-filled, half-rotten innocents instead.

Say what you will about the controversy, though, *Carmageddon* was a pleasure to play, despite a few teething problems. The car physics, the fantastic levels and incredible number of power-ups were more than enough to compensate for the high difficulty and terrible controls. It was an undeniably addictive experience that kept bringing players back for more corpse-dodging goodness, especially with the 'moon gravity' power-up. Even today, when booted up in the office, it still bought a small crowd of fond admirers as they watched the lorry-flipping carnage unfold with joy.

ALSO OUT THEN...



STAR TREK: GENERATIONS

This puzzle shooter was a gem among dozens of *Star Trek* games, one of the few that was actually any good. That said, the interface was pretty cumbersome and the graphics poor, but it didn't matter – with every *Trek*ie in the galaxy after a copy, success was assured.

SCORE
PCF 85%



DUNGEON KEEPER

A classic, and anyone who says otherwise shall be hung, drawn, quartered and sacrificed to the Horned Reaper. *Keeper* blended the same tactical gaming that gamers were bored with, but ended up with a game that pleased the sadist in all of us.

SCORE
PCF 94%



REDNECK RAMPAGE

Elements of *Duke Nukem* – foul language and titillation, which we couldn't condone, but could enjoy – were to be found in *Rampage*. It was fun for short periods and, despite never reaching the one-liner heights of *Nukem*, it remained mildly amusing.

SCORE
PCF 70%

Looking Back

THE CREATOR'S CRITIQUE



Fact File Sound man

Subject

Christophe Carrier

Job title Sound Lead

Developer Arkane

Reviewed PCF143, 83%



It's a kind of magic. An electrical kind, to be precise.



You may use the spell-casting system at this point. Or you could just smack him with a big sword.

Arx Fatalis

Kieron Gillen reveals how sheer determination and hard work put Arkane on the map

How does a development team start? Where do they come from? Whence are they begat? They happen because of one thing: people decide that, actually, we'd like to do it our way for once. People coming together from different places, meeting and going forth.

Christophe Carrier had worked in the games industry for most of the Nineties, when not involved with a band. His first experience was in Quality Assurance (QA) "I was working for Electronic Arts as a QA tester – fixing things,

organising the testing schedule, going to the UK to test games," he recalls, on games like Bullfrog's *Theme Park*. Then he moved into areas more in line with his talents, working primarily in the field of sonics.

FPS FOUNDATIONS

"I did all the sound for a game called *Hexplore* for Infogrames," remembers Carrier. "Before a game for the PlayStation, which was where I met Raphael and we worked together." That is, Raphael Colantonio, the charismatic future CEO of Arkane, it was the sort of fateful meeting from which countries are born. "He decided to do this game," Carrier says, "and created this company. I put money into it. I made the sound and the SFX... and then got into the design".

"This game" was a little thing called *Arx Fatalis*. It had a simple aim, but its conception got a little complicated. "What we wanted to do was *Ultima Underworld 3*," Carrier explains. It's quite the aim. While it was the game which invented the modern first-person revolution, pre-empting *Doom* considerably, *Ultima* was far from a simple game. *UU* was also the first game of a company then known as Blue Sky Software, which swiftly transmuted into the legendary Looking Glass (RIP). In fact, the team at Looking Glass wanted to work on *Underworld*

3. "We talked to Paul Neurath [*Looking Glass big cheese – Ed*] to work with us on it," Carrier notes. It couldn't be done, however, so they set off with their own setting... but with *Ultima* as a solid blueprint.

"Raphael felt all the mechanisms in the game were in there," explains Carrier. "Thought-provoking style, the same user interface, the same crafting experience...". A strong design brief, then, but an incredibly ambitious aim: to attempt in a modern engine (which they had to make from scratch) with a team which didn't grow into the double figures. Still, Arkane believe in the power of chasing the impossible. "Anything is possible," Christophe relates, "This was our main idea in the first place. We did what we wanted to. Now we're going to try the game without selling ourselves. It's risky. But when it works... this is the Arkane policy. Always find a challenge. When people say "You don't want to do that... it's crazy". That's why we want to do it. It's a challenge. If it works, great!"

That they were such a small team gave them some advantages, however. "We were five in the beginning," reminisces Carrier. "It was so cool, because when someone had an idea it was like... 'Well, what do you think about doing this?' 'Yeah, that's cool! Let's do it'." He compares this to the current procedure working on first-person action-RPG *Dark Messiah of Might & Magic*. "Now it's an entire process. You have to talk to a Lead, who talks to the publisher and there's lots of people saying 'Let's think about that...'," he sighs. "Back then it was 'We have an idea?'. He stops, clicking his fingers sharply: "Let's do it! It was like a special forces commando unit. We were so fast." The problem with such a concentrated team was obvious – a simple lack of manpower. "It was so difficult," Christophe says. "We worked for hours at night, but I think we were very lucky. Ten years ago it was easy to



Stealth mode means sneaking about is on the menu.

Developer Diary

Pawel Marchewka explains the creative process behind *Call of Juarez*



These days, it's probably fair to say that sequels, franchise-based episodes and expansion packs form the bulk of the PC gaming industry. This is all well and good, but it means that starting work

on a game based on an entirely original idea is not an easy task.

However, examples like *F.E.A.R.* show clearly that such enterprises can be done successfully. We realised we need to innovate every aspect of a new game in order for it to capture gamers' imaginations and be successful. When we decided to produce *Call of Juarez* – an epic, first-person shooting adventure set in the Wild West – we were sure that the Western theme – which had not been widely used in PC gaming until now, was ideal, and could create a new and genuinely interesting game model.

We knew that first-person shooter fans would immediately latch onto the game's central premise: who wouldn't want to blast through levels including classic duels in deserted, atmospheric streets under the burning sun? Street shootouts, bank and train robberies and running battles on the high plains were specifically what we had in mind when we first sat down to plan out the basics of the new game. To make all of this possible, and for the game to be successful, though, we knew that it had to include entirely unique new elements, which the players would be looking out for.

Retaining enough of an original game to appease its many fans, while adding elements to its sequel to attract new players, is always a challenge. But in case of *Call of Juarez*, we had some more help from the movies, history and folklore of the Wild West. Why not tell a convincingly realistic story seen through the eyes of two different characters – mortal enemies – so that the story unfolds through the eyes of the hunter and the hunted? Why not create 'duelling' sections never seen in the game's predecessor? Why not make the game environments vivid, realistic and packed with the danger of the Wild West? Soon players will be able to judge if our efforts and ideas meet their expectations, but one thing is for sure – only bold new gameplay ideas and fresh themes can change the contemporary gaming market.

Pawel Marchewka is CEO of Czech dev Technoland.



Red sky at night, shepherd's delight. Red torch in the dungeon, there'll soon be blood everywhere.

do that. Five years ago... it was getting very difficult to make a game."

SPELL CASTING

In terms of changes to the design which they were pleased with, only one thing really stands out, though. "The only thing we added which was quite original which was the spell system," he grins, "Which may have been too hardcore." Coming at a similar time to *Black & White*, it used a gesture system where runes were drawn with the mouse to activate various magical effects. "It's not like we wanted it to be too challenging to the magician," he says. The theory went that the physical action brought you closer to the character. "You're a magician... you have to behave like a magician."

Sound was also used to draw the player deeper into the game world. "Of course, we worked with a bunch of guys like Kemal Amarasingham who made all the ambient noises for *Thief*," Christophe explains. "It added a touch. We then started to work with people we liked, which helped us a lot." They also used some Looking Glass-related voice talent, like Steve "Garrett" Russel.

In terms of actually getting the game out, Arkane was both lucky and unlucky with its distribution. "The publisher was first Fishtank, then JoWood," Carrier explains. "They were both very permissive. They allowed us to do what we wanted. We didn't want to be a bit too hardcore, but it was a cool experience, because everyone did what they wanted to." The game wouldn't

have been possible without this level of freedom. The problem that neither was a big publisher, and it led to limited success. "Unfortunately the game didn't succeed in terms of mass sales, as having been marketed by Fishtank, then JoWood, and then JoWood didn't have enough money to hype the game in the US," Carrier relates, "So we ended up with a game which was cool, I guess, but not very polished. Or at least, not as polished as I'd have liked to be, in an ideal world. But at least it allows us to be respected in the

community, especially with Valve and Bioware, which is cool – as we achieved what we wanted to do. We were happy to garner a reputation in the eyes of both gamers and well-

known programmers."

This respect clearly means a great deal to Arkane. The company's initial motivation was solely to ape the huge successes of another. Being accepted by one's peers means a lot and has led to various collaborations. For example, *Thief: Deadly Shadows* Project Lead Randy Smith has worked with Arkane on *Dark Messiah*. "We had conversations with him by email, then we asked him to work on the game with us," Carrier explains. "He helped us out with the mechanics, and had some useful advice on how best to structure our thoughts. That was cool, because we spent a lot of time formulating ideas and working out what we were going to put in the game. We were learning, as we weren't very experienced. But now we are. He provides us with the tools to organise our game." **PCF**

"We worked for hours every night, but I think we were very lucky"

Bad language

Je ne comprende pas cette jeux

Arkane's lack of native English language speakers created one significant problem when *Arx Fatalis* was nearing completion. The team decided to do all the in-game text in English themselves, which led to a string of rewrites

by different people, who all strove to make the final script good enough to do the rest of the game justice. This involved a back-and-forth between several translators, each of whom who missed something which Arkane then had

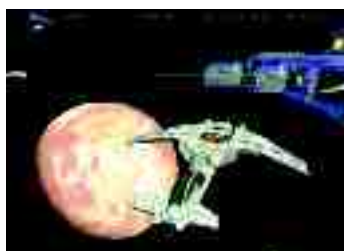
to fiddle with. And even when it was all done, they had to translate the final changes back into French. They learned that it really was best to get a native-English speaker to do it to begin with. It just saves a lot of time.

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The Mod Squad

Extra life for your games



Space: AoB

Game Homeworld

Web www.ianstation001.net/saabgone

Unless you prefix a sci-fi programme's title with the words Star and Trek, then you are unlikely to get yourself a second season in the TV sun. This was certainly true of the brilliant *Space: Above and Beyond* which managed 'Vietnam in space' with ease. This add-on for the original *Homeworld* is the first S:AAB modification ever made. As the show got canned about a decade ago it could also be the last. Shame.



LotR Total War

Game Rome Total War

Web www.lotrtw.com

The creator of this mod says inspiration dawned after seeing his hopes for vast Tolkien-esque battles in *Battle for Middle Earth* dashed by its slightly limited scope. *Rome Total War* however offered the scale and this is the fruits of his labours. The 1.1c beta only has the skirmish functions, but there are eight playable factions and over 150 new units. The campaign map is on its way in the 2.0 release, and should be truly epic.

HONOURABLE MENTION



Megane Trophy

Game rFactor

Web www.rsdg.net

Nope, you haven't accidentally stumbled into Burger King Car Park Magazine, this is an add-on that brings the Renault Megane Trophy (yes, the car with the derriere) to mod-friendly indie sim *rFactor* (www.rfactor.net). The amateur RSDG team has lovingly produced 33 of the cars from the 2005 Megane Eurocup, complete with real liveries, accurate engine sounds and physics designed to simulate driving a motor with a bit of an arse on it.



Had you spent some time hanging around in *WoW* for a week in the middle of May, you might have noticed the abundance of small things littering the land. Children's Week saw adventurers taking orphans by the hand and showing them the world in return for assorted pets. How sweet. Coinciding with some sort of American holiday, *World of Warcraft* is also arranging to release the Goblins of Undermine for a pyrotechnic display called the Engineer's Explosive Extravaganza on the 4th of July.

Elsewhere, the original creator of *Dungeons & Dragons*' land of Eberron, the setting for *D&D Online*, has agreed with Turbine to pen new storylines for the popular MMO. There's excitement round Arnie's way too, as *Age of Conan Hyborian Adventures* has been slated down as one of those hotly anticipated Vista launch titles. Finally, for all you folks hanging on the release of NCSoft's *Tabula Rasa*, there's the new E3 trailer waiting on its official website.



RE-RELEASES THIS MONTH

Some things are worth repeating



Brothers In Arms: Road To Hill 30

Focus Multimedia >> £10

Recreating the nightmarish journey of the 101st Airborne after the D-Day landings, *BiA* is one of the most intense shooters around. A sharp mind is just as vital as a big gun.



Silent Hunter III

Focus Multimedia >> £10

This sub-sim allows you to tailor your experience with variable realism settings. It's the second best place to live out those Das Boot fantasies. Achtung Helmut! Dive! Dive! Dive!



Project Snowblind

Mastertronic >> £10

We've all been spoiled by open games such as *Oblivion* and intelligent shooters like *Half-Life 2*. *Snowblind* isn't open or intelligent, but it's got shedloads of robot-blasting fun.



Playboy: The Mansion

Focus Multimedia >> £10

We've always thought Hugh Hefner bore more than just a passing resemblance to Arthur Dent, but then, he's done pretty well out of taking pictures of boobs. Now you can too.

Restart

**PRIZES
WORTH
£999**



The Gamer Xplorer should render these ghoulies with ease.

WIN!

Lord it up with a Cyberpower Notebook

Jump into some furry hobbit feet and get questing around Middle Earth with a performance laptop.

Not only have we here at PCFormat conspired with Codemasters Online Gaming to bring you our biggest Beta Eater giveaway ever (see p26 for details of how to get in on the action), but we've also secured a



The world of Tolkien's Middle Earth is the perfect setting for an MMO.

gaming notebook for one lucky reader. Codemasters has teamed up with Cyberpower UK to give you the chance to take on the might of Sauron with the gorgeous Gamer Xplorer 80 notebook.

Lord of the Rings Online: Shadow of Angmar is the hotly anticipated new MMO from the RPG specialists at Turbine Games, the brains behind the *Asheron's Call* series and *D&D Online*. This first instalment features many of the characters and all your favourite Middle Earthly locations from the first book. Adventuring in parallel with the Fellowship you will come across the remnants of famous battles and find your own path within the War of the Ring.

CYBERPOWER GAMER XPLORER 80 SPECS

- >> Mobile AMD Turion 64 MT-40 CPU w/ HT Technology 2.2GHz 1MB Cache Ultra Low Voltage
- >> 15.4" WXGA LCD Display
- >> Microsoft Windows XP Home with SP2
- >> 1GB 400MHz DDR SODIMM Memory
- >> ATI Mobility Radeon X700 GPU 128MB VRAM
- >> 80GB 5400RPM Ultra ATA 100 Hard Drive
- >> 8x DVD Rewritable Drive
- >> Built in AC 97 sound
- >> 3-in-1 Multi Reader



HOW TO ENTER

Simply visit www.pcformat.co.uk, and click on the competitions link, and answer the following question for a chance to win.

Who wrote the Lord of the Rings trilogy?

- A) JR Hartley
- B) JR Ewing
- C) JRR Tolkien

TERMS AND CONDITIONS 1. Employees of Future Publishing, Cyberpower or Codemasters and their immediate families or agents are not eligible to enter. 2. The prizes will be awarded to three randomly chosen correct answers received by the closing date. 3. The Editor's decision is final and no correspondence will be entered into. 4. Entries must be received by 13 July 2006 which is the closing date. 5. Multiple entries will be discarded. 6. There are no cash alternatives. 7. No purchase is required. 8. This competition is open to UK residents over the age of 18 only.

Next month in **PCFormat**

The

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**HALF-LIFE 2:
EPISODE 1**
Read our review
online now at
www.pcformat.co.uk

most important PC innovations ever

**From the birth of the computer to the present day –
the defining moments of PC development revealed**

**Plus! Dr PCF helps out Great Ormond Street, everything you
need to know about motherboards, GeForce 7950 GX2
reviewed, more AM2 and Conroe chips...**

ON SALE 13-07-2006

Overtake you... **HAVE YOUR SAY**

Hack your holiday

With the PC spreading its ever-evolving fingers further and further out from the back bedroom, just how much of an impact on your holidays does technology have?

iPods haven't totally taken over your world – **57%** of respondents own an MP3 player of another make, while **22%** are still stubbornly resisting the portable music revolution entirely. "iPods are rubbish because they are far too common and show that you're lacking in an individual taste. The fact that three surveys I've seen recently were headed with "Win an iPod Nano" just proves this. That just puts me off filling them in!"

Impressively, 63% of our readers are making up for those luddites by owning more than one MP3 player.

Almost **2/5** have ditched their battered collection of tea-stained OS maps in favour of a GPS unit.

3/10 newsletter subscribers have a portable video player of some sort. The PSP's not selling as well hoped, eh?

"The rest of my family love their iPods. They get lost, though, and said family members complain bitterly when I show no interest in finding them."

WIN!

Sign up to our newsletter at www.pcformat.co.uk, and you'll receive the Over To You survey. Bung us your answers and you could bag yourself a Shuttle XPC SN25P barebones system.



Disappointingly, less than one in 10 readers have ever used a laptop on the beach. Come on, burn your groin as well as your shoulders!

By sharp contrast, a mere **6%** of you don't yet own a digital camera. It's possible "Putting

Sooty's head on your mates' photos is priceless," isn't thinking along the same lines as "Digital photography is inferior to traditional photography in many ways but it is convenient for happy snapping. A quality digital camera capable of matching my 35mm set-up is way beyond my pocket."

71% take two or more power cables on holiday with them – in fact, **12%** claim they have more than 5 in their suitcase. "It's difficult to choose between mobile phone, digital camera and laptop. They all tie in together so I take either all or none!"

If someone were to unexpectedly give PCFormat's readers £1,000, 19% would spend it on a holiday, 31% on tedious essentials like bills and food, and a gratifying 50% on PC-related goodness. Huzzah for you!



NEXT MONTH
PCFormat issue 190 is on sale 13th July

All stats based on an unscientific, non-random sample of respondents to the monthly PCF survey. Check out blog.pcformat.co.uk for more information.